for knitting--जाली बुनने की सुई (सलाई) । Fed from-got its power from--से शक्ति प्राप्त की । Galvanice--गाल्वेनिक--produced by galvanism (Galvanism is the electricity produced by chemical action)--विद्युत शक्ति उत्पन्न करने वाली । Vibrate--विबरेट shiver--कम्पन । Resembling--रिजेम्बलिग--similar--अनुरूप । Intrigued--इन्ट्रीग्यूड--employed secret means--कूट प्रबन्ध किया, गुप्त रूप से आकृष्ट हुआ ।

Page 3

Word Meanings:--Reflect--रेफ्लेक्ट--think--विचारना । Tuning fork--ट्यूनिंग फोर्क--an instrument to put something in time--सुर में लगाने वाला कांटा (यन्त्र) । Intermittently--इन्टरमिटेंट ली--ceasing at intervals--पारी पारी से । Electro-magnets--एलक्ट्रोमेगनेट्स--bars of soft iron made magnet by electricity--मुलायम लोहे मे से विद्युत चलने मे चुम्बक वनने वाला । Pitches--पिचेज--intensity--वेग । Automatically ओटोमेटीकली--mechanically--आप से आप चलने वाला । Interrupting--इन्ट्रप्टिंग--hindering--अवरोध करते हुये । Depression - डेप्रेसन--a reduction in vitality - न्यूनता, कमी । Operating--ओपरेटिंग--performing, acting--कार्य करने वाली । Audible--आडिबल - to be heard--सुनाई देने योग्य । Feasible--फीजिबल--probable--सम्भव । Resources--रसोर्सेज--means साधन ; Pretty--प्रेटी--beautiful--सुन्दर । Stone-deaf--स्टोन डेफ completely deaf--पूर्ण रूप से बहरा । Verdit--वर्डिट--judgement, statement--विचार ।

Page 4

Word Meanings:--Modification--मोडिफिकेसन--the state of being modified (moderated)--सुधारना--संशोधित रूप ।

Pages 4-7

'Mr. Watson. Please come here.

Mr. Hubbard, anxious.............It workes.

Page 4

Word Meanings:—Anxious—एन्कसस—desirous—इच्छुक । Grisly—ग्रिस्ली—frightful, causing terror—विकट, भयानक । Skull—स्कल—खोपड़ी । Read—रीड—pipe—नली । Smoked—स्मोक्ड—covered with smoke—धूंआ लगा हुआ । Scrawl—स्क्राल—scribble—झपट । Artificial—आर्टीफिसियल—not natural कृत्रिम । Systematically—सिस्टेमेटिकली—properly—उचित रूप से । Physicist—फिजिसिस्ट—a student of physics—पदार्थ विज्ञान का ज्ञाता । Proved प्रोव्ड—examined निरीक्षण किया । Optics—ओपटिक्स—the science of light—प्रकाश विज्ञान । Acoustics—एकाउस्टिक्स—the science of sound and hearing ध्वनि विज्ञान । Diaphragm—डायफ्रम—middle part—मध्य भाग । Coil—कोइल—wire arranged in concaitric circles—चक्करदार तार ।

Page 5

Ward Meanings:—Induced—इन्डस्ड—presuaded actuated—बहकाया है । Vibrations—विबरेसस—shiverings—कम्पन । Converted—कनवर्टेड—changed—परिवर्तित की जाती है । Current—करेंट—the flow of electricity—विद्युत धारा । Reproduced—रिप्रोडयूस्ड—to produce again—पुन: उत्पन्न करना । Gripped—ग्रिप्ड—firmly possess d—पूर्ण रूप से समा गया । Zigzagging—जिग्जेगिंग—apparatus—अपरेटस—mechanical instruments—प्रयोग करने वाले यन्त्र । Formidable—फोरमिडेबल—dreadful—भयानक, भीषण । Climax—क्लाईमेक्स—zenith, the highest point शिखर । Heart breakingly—हार्ट ब्रीकिंगली—greatly disappointing—अत्यन्त हृदय तोड़ने वाला । Ridiculy—रिडिकूली—to make fun of—मजा । Telephonically—टेलीफोनीकली—through telephone—टेलीफोन के द्वारा । Sensational—सेंसेस्नल—surprising—आश्चर्य में डालने वाली, सनसनी पूर्ण ।

Page 6

Word Meanings:—Transmitters—ट्रांसमीटर्स—inst-

ruments used to send voice—भेजने वाले यन्त्र। Circuits—सर्किट्स—path of electric-current—विद्युत धारा का पथ। Discs—डिस्कस—plates—तश्तरियों। Armaturer—आर्मेचरर—an important portion of dynamo—विद्युत उत्पन्न करने वाले यन्त्र का एक प्रमुख भाग। Electro-magnets—एलक्ट्रो मैगनेटस—bars of soft iron made magnetic by electricity—मुलायम लोहे में से विद्युत चलने से चुम्बक बनने वाला। Pluck—प्लक—remove—हटाना। Shouted-शाउटेड—spoke loudly—चिल्लाया। Signified—सिगनीफाईड—meant, intimated—प्रगट किया। Pursuing-परसुईंग—followed—पीछा किया। Territory—टेरीटरी—boundry area—साम्राज्य, सीमा Genius—जीनीयस—great natural ability—अपूर्व बुद्धि। Realized—रियलाइज्ड-felt—अनुभव किया। Grasp-ग्रास्प—understanding—समझा।

Page 7

Word Meanings: Transmission-ट्रांसमिसन—carrying or sending from one place to another—एक स्थान से दूसरे स्थान भेजना। Avoided-एवोइडेड-omitted-left—छोड़ दिया। Controversial-कंट्रोवर्शियल—debatable, having points of dispute—तार्किक। Father-in-law—ससुर। Restrain—रेस्ट्रेन—check—रोकना; Barrel organ—बारेल आरगन—tube—नली। Specification—स्पेसिफिकसन—detailed description—विशिष्ट। Patent office-पेटेंट आफिस—the office where new things are registered for commercial purposes—रजिस्ट्री करने वाला दफ्तर Membrane—मैम्ब्रन—their fibrous layer झिल्ली। Undulations—अण्डूलेसन्स—waving motions—लहर, झकोरे, कम्पन। Rigged up रिग्ड अप—furnished with rigs—रस्सों से सुसज्जित। Attic—अटिक—the room in the highest story of the building—अटारी।

Pages 8-10

Great Heavens ! it talks...........of miles distant.

Page 8

Word Meanings:—Recognition- रिकगनीशन—identification—प्रमाणीकरण, मान्यता; Obtained—ओब्टेन्ड—received—प्राप्त किया; Extra ordinarily—एक्सट्रा-ओरडीनरीली—specia ly- विशेष रूप से; Far-sighted—फार-साइटेड - intelligent—दूरदर्शी; Legal—लीगल—related to law—कानून सम्बन्धी; Cammercial—कामर्सियल—business—व्यापार सम्बन्धी; Ruthless - रथलैस—cruel—निर्दय; Imperfect-not complete—अपूर्ण; Protested—प्रोटेस्टेड—disapproved—विरोध किया; Scarcely स्केयर्सली—hardly—कठिनता से; Side-whiskers—साइड—विस्कर्स—किनारे के गलमुच्छे।

Page 9

Word Meanings:—Refrigerator—रेफ्रीजरेटर—an-ice-chest—बर्फ रखने वाला बक्स; Exhausted एक्जहास्टेड—completely tried—पूर्ण रूप से थका हुआ; Approached—अप्रोच्ड—came near—समीप आये; Commentary—कमेन्ट्री—explanatory remarks—टिप्पणी; Stratched—स्ट्रेच्ड—फैलाया; Thunderstruck—थन्डरस्ट्रक—astonished—चकित; Aristocrate—अरिस्ट्रोकेट—one of good birth - शिष्ट; Incognito—इनकोगनिटो—concealed, disguised—गुप्त।

Page 10

Word Meanings - Stared—स्टेयर्ड—gazed—घूर कर देखना; Utter—अटर—complete—पूर्ण; Astonishment—अस्टोनिस्मेंट—surprise—आश्चर्य; Marvel—मारवेल—wonder—आश्चर्य; Infancy—इनफेन्सी—begining—प्रारम्भ; Susceptible—सस्पटीबल—sensitive—ग्रहणशील; Distinctly—डिस्टिंक्टली—clearly—स्पष्ट रूप से; Monosyllables—मोनोसाइलेबल्स - words of one syllable—एकाक्षर; Appliance—अप्लायन्स—tools, instruments—यन्त्र; Rudimentary—रुडीमेटरी first principles—प्राथमिक सिद्धान्त; Confidently—कोन्फीडेन्टली—with c. mplete faith—पूर्ण विश्वास से।

'Great Heavens ! it talks,' said the Emperor.

Pages 11—12

The first broadcast......telephone exchange.

Page 11

Word Meanings :—Enthusiastic—इन्थूजियास्टिक—full of enthusiasm—उत्साहपूर्ण। Scientific journals—साइन्टीफिक जरनल्स—magazines related with scientific achievements वैज्ञानिक पत्रिकायें। Demonstrations—डेमोन्स्ट्रेसन्स—exhibition—प्रदर्शन। Established—एस्टेब्लिश्ड—स्थापित की। Apparatus—अपरेटस—instruments—यन्त्र। Memoirs—मेमोयर्स—written accounts of events—घटनाओं का लिखित ब्यौरा। Infatuated—इन्फेचुयटेड—foolish—मूर्ख। Squandered—स्क्वान्डर्ड—spent money wastefully—अपव्यय किया। Broadcast—ब्राडकास्ट—प्रसार। Honeymoon—हनीमून—सुहागमास। Propagandist—प्रोपगन्डिस्ड—one who spreads—some system—प्रचारक। Conversations—कन्वरसेसन्स—talks—वार्तायें। Communication—कम्यूनीकेसन—information give—सन्देश आ जाना। Recital—रिसाइटल—the act of reciting—पठन, उच्चारण। Installed—इन्सटाल्ड—fixed, arranged—लगाया। Dictated—डिक्टेटिड—was spoken—बोला गया। Stenographer—स्टेनोग्राफर—a short hand writer—साँकेतिक चिन्ह से लिखने वाला। Published—पब्लिशड—printed, appeared—प्रकाशित हुआ।

Page 12

Word Meanings:Industrialist—इन्डस्ट्रियलिस्ट—one related with industry—उद्योगपति। Capital—केपीटल—पूंजी। Mass produce—मास प्रोडयूस—to make on large scale—ऊंचे स्तर पर बनाना। Crazy—क्रेजी—mad—उन्मत्त, पागल। Exchange—एक्सचेन्ज—विनिमय, अदल-बदल। Individual—इन्डीविज्जल—personal—व्यक्तिगत। Subscribers—सब्सक्राइबर्स—ग्राहक। Expensive—एक्सपेन्सिव—costly—महंगी। Origin—ओरीजन—begining—प्रारम्भ। Installed—इन्सटाल्ड—established—स्थापित किया गया। Switchboard—स्विच बोर्ड—a board with

electric switches—विजली की अनेक धाराओं का सम्बन्ध बदलने वाला तख्ता। Burglaries—वर्गलरीज—theft—चोरी। Operated—ओपरेटेड—performed, acted—कार्यकर्ता था।

Pages 13, 14

Bernarn Show and..................of the room.

Pages 13

Word Meanings:—Specifications - स्पेसिफिकेसन्स—detailed descriptions—विशिष्ठ। Indicate—इन्डीकेट—show दिखाना, बताना। Revolution—रेवोल्यूशन—क्रांति। Ultimately—अल्टीमेटली—finally—अन्त में। Continent—कान्टीनेन्ट—mainland—महाद्वीप। Supersede-सुपरसीड-suspend—हटा देना। Cumbersome—कम्बरसम—clumsly—भद्दा। In fringed the copy-right of others—दूसरों के अधिकार को छीनना। Acquired—आक्वायर्ड—possessed—प्राप्त किया। Exploited—एक्सप्लोयटेड—propagated—प्रचलित किया। Announcing—अनाउसिंग—declaring—घोषित करते हुए। Decision—डेसीजन—judgement—फेसला। Efficient—एफीसियेन्ट— able—योग्य। Microphone—माईक्रोफोन—an instrument for intensifying feeble sounds—धीमे स्वर को तीव्र करने वाला यन्त्र। Transform—ट्रान्सफोरम—change—परिवर्तित करना। Impulses—इम्पलसेज—sudden forces—प्रवृति। Electro-motography—इलेक्ट्रोमोटोग्राफी—विद्युत चालित तीव्र ध्वनि प्राप्त करने वाला यत्र।

Page 14

Word Meanings : Distinguished—डिस्टिंगुईश्ड—remarkable—विशिष्ट। Was formed—came into existense—अस्तित्व में आई। Flaming—फ्लेमिंग—blazing—जलती हुई। Beard—बी.ई—दाढ़ी। Ambitions—एम्बीसन्स—great desires—इच्छायें, अभिलाषयें। Amusing—अम्यूजिंग—interesting—मनोरंजक: Ingenius—इंजीनियस—skillful—चतुर। Stentorian—स्टेन्टोरियन loudly speaking—उच्च स्वर में बोलने वाला। Bellowed वैलोड—shouted—गर्जना। Whispering—व्हिस्परिंग—to speak slowly—फुसफुसाना। Discretion—डिस्क्रीसन—

freedom to act at pleasure—स्वेच्छापूर्ण । Amalgamated—अमलगेमेटेड—united—मिला दी गई । Circular—सरकुलर—a printed notice which is sent to several persons – विज्ञापन का पत्र । Quaint—क्वेंट—strange—विचित्र । Strides-स्ट्राईड्स—long steps, progress—उग्र उन्नति । Cap—कैप—hackney—carriage.

Pages 15–16

Mr. Bell and his sheep............all her life.

Page 15

Word Meanings:—Concerns—कनसर्न्स—relates to—सम्बन्ध रखता है । Attitude—एटीटयूड—position—स्थित । Vocal physilogy—वोकल फिजियोलोजी—the science of teaching to speak to deaf—बहरों को बोलना सिखाने का विज्ञान । Fate - फेट—luck—भाग्य । Honey, moon—cum-business trip—पर्यटन जिनमें सुहागमास तथा व्यापार सम्मिलित थे । Inclination—इनक्लीनेसन—wish, bent—इच्छा, रुचि । Luxurious—लग्जूरियस—full of comforts—विलासितापूर्ण । Magnificent—मैगनीफिसेन्ट—majestic—वैभवतापूर्ण । Scramble—स्क्रैम्बल—to catch at—झपटना । Helpmate—asistant—सहयोगी । Typical—टिपीकल—remarkable, symbolic—आदर्शभूत ।

Page 16

Word Meanings:—Boasted—बोस्टेड—to be proud of—शेखी मारना । Achievement—अचीवमेंट—great work—कार्य । Electrician—इलैक्ट्रीशियन—one who deals with electricity—विद्युत का कार्य करने वाला । Characteristic—करेक्टरइस्टिक—typical—विलक्षण । Modesty—मोडेस्टी—moderation, chastity—नम्रता । Blazed—ब्लेज्ड—emitted the light—प्रकाश दिखाया । Ambition—अम्बीशन—great desire—अभिलाषा ।

Questions And Their Answers.

प्रश्न और उनके उत्तर

Q. 1. What do you know about the early life of Alexander Graham Bell ?

अलैक्जैंडर ग्राहम बैल के प्रारम्भिक जीवन के बारे में तुम क्या जानते हो ?

Answer:—

Alexander Graham Bell was the famous inventor of Telephone system and the world. He was born in 1947 in Edinburgh. He belonged to the family of teachers. Some of his family members were experts in the science of hearing.

Though he was brought up in Boston, Hassachusetts, but he returned to Edinburgh University to complete his studies. It was here that he came in contact of a strange instrument which inspired him to invent the telephone. He was an imaginative young man who always thought about the possibility of finding new instruments.

Q. 2. What part did Mabel Hubbard and her father play in Alexander Graham Bell's life.

मबेल हवर्ड और उनके पिता ने अलेक्जेण्डर ग्राहम बैल के जीवन में क्या भाग लिया ?

Answer:—

Alexander Graham Bell settled in Boston at the age of 25 as a teacher of speech to the deaf. Mabel Hubbord was a stone-deaf girl of a rich and farsghted father. She became the pupil of Alexander Graham Bell. He promised to invent certain instrument by which she would hear guite clearly. Mr. Hubbard wanted to help

his daughter. He supplied money to Bell so that he might invented such an instrument.

Alexander Graham Bell fell in love with Mabel Mr. Hubbard always inspired him to continue his experiments and helped him financially. When Bell completed his invention of telephone he got it is patent for him. He was a perfect and honest business. He asked him to take the newly invented instrument to the International Centennial Exhibition where it was proclaimed to be greatest marvel.

Later on, in August 1877. Alexander Graham Bell and Mabel Hubbard got married. Mr. Hubbard always manased his affairs and looked after his company. Really Mr. Hubbard and his daughter played a very important part in making his life a great success.

Q. 3. How did Alexander Graham Bell invented the telephone ?

अलेक्जेण्डर ग्राहम बैल ने टेलीफोन का आविष्कार कैसे किया ?

Answer:—

Alexander Graham Bell completed his studies at Edinburgh University. There he came in contact with an instrument which was known as the 'Telephone.' He was deeply imbressed by it.

It was made from playwood and bits of wire. There were two boxes connected with electric wires fed from a galvanic battery. A kind of knitting-needle was the main part of it. This gadget made him to think on the possibilities of producing sound by electrical means Wh ile trying to make an 'artificial ear' for Mabel Hubbard, he came to know that the vibrations of the air caused by human speech or music could be changed into varying

electric current. Immediately he started a series of of experiments with his assistant Thomas A. Watson.

While doing an experiment on 2nd June 1875, he found that an electric wire could carry vibrations of sound. Since then, Bell worked hard to make a more perfect model. It was in January 1876 that Alexander Graham Bell invented the Telephone when the message transmitted by him, was recéived by Thomas A. Watson in the other room. Thus, the great invention was completed in a little dusty workshop in a noisy side-street in Boston.

Q. 4. Who was Thomas Watson ? How was he related with Alexander Graham Bell ?

थोमस वाटसन कौन था ? उसका अलैक्जेण्डर ग्राहम बेल से कैसा सम्बन्ध था ?

Answer—

Thomas A. Watson was the assistant of Alexander Graham Bell. He worked hard with him when Bell was doing his exp riments in the little workshop in Boston. As the invention of Telephone was completed in January 1876, he was the first man to receive the message from his boss Alexander Graham Bell.

Even Bell had a great love for him. In 1915, a telephone line having a total length of 3400 miles was completed between New York and San Francisco. It was to be opened by Alexander Garham Bell. He did not forget to call Thomas Watson as such an important occasion. He insisted for his presence on the other end in San Francisco. As such the arrangements were made accord ngly. It clearly shows the great affection which existed between Alexander Graham Bell and his

helpmate Thomas Watson. He always obeyed his commands earnestly and worked hard with him during weary experiments.

Q 5. How was the Alexander Graham Bell's invention of telephone welcomed in the International Centennial Exhibition at Philadelphia ?

अलैक्जैण्डर ग्राहम बेल का टेलीफोन के आविष्कार का फिलाडेलफिया अन्तर्राष्ट्रीय शताब्दी प्रदर्शनी में कैसा स्वागत हुआ ?

Answer:—

Alexander Graham Bell invented the telephone in January 1876. His father-in-law Mr Hubbard obtained the patent for him. He also asked him to take it to the International Centennial Exhibition at Philadelphia Bell did not agree with the idea in the beginning but later on he made a special for the Exhibition.

No one took any serious interest in the Exhibition Bell became very nervous and decided to leave the place along with his instrument. But Mr. Hubbard forced him to stay for few days more. Even the rudges of Exhibition did not show any interest in his invention. At last, the lucky moment came and the Brazilian Emperor Pedro II visited the Exhibition. He recognised the Professor Bell at once and showed a keen interest in his telephone. Soon it became a sensational thing in the Exhibition.

The American scientist, Professor Henery spoke high of it. The British scientist Sir William Thomoson exhibited his astonishment and delight on examining the new invention. At last. Bell's invention was heartly welcomed in the Exhibition and the judges considered it as the greatest marvel. They expressed high hopes for the new invention by Alexander Graham Bell.

Q. 6. What did Bell do to introduce the telephone to the American public ?

अमेरिका के मनुष्यों को टेलीफोन से परिचित कराने के लिए बैल ने क्या किया ?

Answer:—

The telephone had become quite popular in the International centennial Exhibition, but the American public could not take much interest in it. As such Alexander Graham Bell decided to introduce it to them.

Bell, Hubbard and Watson arranged a series of public demonstrations. They established a line between Boston and Salem. Bell demonstrate his apparatus to the public. Watson played some musical instruments. Sometimes he sang himself. As a result of such demonstrations, American public got interested in the telephone. They realised its importance in their daily life.

Q. 7. How did the first telephone exchange came into existence ?

प्रथम टेलीफोन विनिमय केन्द्र किस प्रकार अस्तित्व में आया ?

Answer:—

The telephone was invented by Alexander Graham Bell in January 1876. It became quite popular within a short period. Bell married Mabel Hubbard and left for England. When he returned in 1878, he found the first telephone exchange in New Jersey.

Before this system was introduced, telephone was an expensive luxury. It required large sums to carry the telephone line from one person to another. Individual lines were costly for the subscribe. As such, a hundred subscribers decided to install a kind of central

switchboard at Broklyn Heights, New Jersey. All the messages were sent to the switchboard first. From there they were directed to the respective subscribers. Thus the first telephone exchange came into existance in New Jersey, America.

Q. 8. Why was the Western Union Telegraph company amalgamated with the Bell company ?

वेस्टर्न यूनियन टेलेग्राफ कम्पनी को वेल कम्पनी के साथ क्यों मिला दिया गया था ?

Answer:—

Alexander Graham Bell invented the telephone and obtained a patent for it. His right to make the telephone was reserved by this act. But several large companies came in o existence to make telephones. The most prominent among them was the Western Union Telegraph company with which the famous Bernard Show was also related.

The Bell company objected their functioning. They strated lawsiuts aginst them and mostly won the cases. The technical adviser of the famous inventor. Thomas Alva Edison. He introduced certain changes in the telephone and brought them into the market. The lawsiut was filed against that company by the Bell company. At a result of it, The Western Union Telegraph company was amalgamated with the Bell company in 1880.

Q 9. Describe the later life of Alexander Graham Bell ?

अलेक्जेण्डर ग्राहम वैल के बाद के जीवन का वर्णन करो ?

Answer.—

Alexander Graham Bell became a famous and rich

person after his invention of the telephone. He married Mable Hubbard and left for his European honeymoon cum-business trip.

On returning from there, he settled in Washington as the Professor of teaching the deaf. He showed no interest in business and began to lead a simple and peaceful married life. He started a sheep from at Bad deck in Nave Scotia and taied to a breed sheep which would produce more than one lamb at time. He was successful in his attempt. As such his later life passed happily and peacefully.

Q. 10. Give a short character sketch of Alexander Graham Bell, the famous inventor of the telephone.

टेलीफोन के प्रसिद्ध आविष्कारक अलैक्जेन्डर ग्राहक बेल का जीवन परिचय दो।

Answer—

Alexander Graham Bell was born in 1847 in Edinburgh. He belonged to the family of teachers and experts in the science of hearing. His childhood passed mostly in Boston Massachusetts. But he completed his studies in Edinburgh University.

He came in contact with a strange godget know as the telephone. He showed a keen interest in it. When he settled in Boston as a Professor to teach the deaf he fell in love with a pertty pupil Mabel Hubbard who was stone deaf Bell promised her to invent something to make her hear. Her father Mr. Hubbard supplied money to him for experiments.

As a result of hard labour for years together. Alexander Graham Bell invented the telephone in January 1876. It became quite popu'ar with in a

short time. He married Mabel in 1877 and made a honeymoon trip to Europe.. The invention of telephone made him a very rich man.

Alexander Graham Bell was a simple and earnest man. He never boasted of his greatness and always talked with a sense of humour. He was modest and gentle. He had great affection for his assistant Thomas A Watson who had strugeled with him in his early days. When he inaugurated a 3400 miles long line of telephone in 1915 he insisted his (Watson) presence on the other end of it.

He passed his later life in peace and simplicity He ran a sheep farm at Beddeck in Nava Scotia and continued the work of teaching deaf in Washington of course he could not invent anything to remove the deafness of his beloved wife Mable Hubbard. He died in 1922 at the age of 75. All the telephones of united states observed silence for a minute in his remembrance Really. Alexander Graham Bell added a new chapter in the history of inventions.

Lesson 2.

THOMAS ALVA EDISON

The Man With 2,500 Patents

Summary

Once a train was running fast when the burning luggage van attracted the guard. The train was stopped at once A young boy name Thomas Alva Edison was found guilty for the fire. He was born on 11 February 1847 in the town of Milan Edisons belonged to Holland but presently they had come down to Can-

ada. His mother, a school teacher, came from a fam·ily of American revolutionaries.

Samuel Edison, his father, moved to Port Huron and settled there. All joined the Public School but he was considered an addled boy by his teacher. Once his name was referred to the Inspector and his mother took the charge of teaching him. She was the real maker of Al.

Al started the business of growing vegetables at the back of the house. To keep pace with the growing demand he began to bring vegetables from Detroit. It proved a profitable business. Soon he became a newspaper ooy to sell the Detroit Trce Press to the passengers. One day he sold one thousand copies and next day purchased a small second hand printing press. At the age of 15, he produced his own paper the 'Weekyl Herald' which was printed on the train. But due the fire in luggage van, he was turned out. Then started 'Paul Pry' but even that came to an end soon.

One day he saved the life of the station master's son and got the previlege of learning telegraphy. He learned it rapidly and was appointed as a telegraph operator. Then he invented a gadget to send 'sixes at every hour.' Anyhow, he was found guilty. For five years he worked as a telegraphist for several concerns. He was engaged in Western Union Telegraph company in Boston. There he invented a machine to kill Cookroaches who were nuisans for the offices. Soon after that, he invented a vote recorder' machine but it could not find a place in the market So he decided to invent only those things which were in demand.

One day he left Boston in 1869 for New York. He had no money with him when he reached there. Anyhow, he got a cup of tea and the place to sleep in the battery room of the Gold Indicator company with the help of telegraphist on the third day suddenly the transmitter of the gold reporting telegraph stopped. The suprintendent could not manage it but Al put it right within a short time. Mr. Laws the owner of it offered him to take its charge on the salary of 300 dollars a month.

After sometime Mr. Laws sold the company to General Lefferts. Meanwhile Edison invented the Edison universal printer and Lefferts purchased it for 40,000 dollar. It was Edison's great success in New York.

Edison established his laboratories and continued his experiments. He came in contact of Mary stilwell a girl and married her at the age of 24. His father searcl ed Menlo Park twenty five miles from New York, as the beautiful sight for Edison laboratories. There he invented microphone and came to know about 'etheric force.' Then the idea of recording human voice entered his mind. As a result, the 'phonograph' a sensational invention was made by him.

Thomas Alva Edison left for a holiday in July and August 1878 with Professor Barker he went to V yoming to observe a solar eclipse and tested his another invention of the 'testimeter, an instrument to measure heat. Then, he visited Ansonia, connecticut to see the new electric arc light. It gave him an incentive to invent the electric light. He immediately put his idea into practice with a staff of forty or fifty men. After

great difficulties, he succeeded to introduce cheap electric light on 4 September, 1882 when the whole New York burst into bright electric light.

Then in 1884, his first wife Mary died. After two years he again married a young graduate girl Mina Miller. Edison always belived in hard labour. After the electric lamp, he invented the kinetoscope to show motion pictures. But he could not meet with great success in it During the first world ware he gave his services to the U. S. Government. He worked till his last pay 18th Oct. 1931, when he met death. Thomas Alva Edison was the 'inventor at large' with 2500 patents in all. After him the age of specialization began in the world. He was one of the greatest inventors of his age.

पाठ का हिन्दी सारांश

एक बार एक रेलगाड़ी बहुत तेजी से जा रही थी कि गार्ड की दृष्टि एक जलते हुये समान रखने वाले डिब्बे पर पड़ी। रेलगाड़ी को फौरन रोका गया। इस अग्नि के लिए एक नवयुवक जिसका नाम थामस अल्वा एडीसन था को अपराधी पाया गया। उसका जन्म ११ फरवरी १८४७ को मिलान शहर में हुआ था। एडीसन लोग होलैंड के निवासी थे पर वे इन दिनों कनाडा मे आकर बस गये थे। उसकी माताजी अध्यापिका थीं और अमेरिका के क्रान्तिकारी परिवार से सम्बन्धित थीं।

उसके पिता सैमुअल एडीसन जो पहले मिलान में रहते थे रेल–गाड़ियों के चल जाने से पोर्ट हुरन में आकर बस गये। अल ने वहाँ पर पब्लिक स्कूल में पढ़ना प्रारम्भ किया लेकिन उसके अध्यापक ने उसे एक बिगड़ा हुआ लड़का समझा। एक बार उस अध्यापक ने अल के बारे में यही तथ्य निरीक्षण महोदय को बता दिया। अल ने घर

आकर अपनी माता को सम्पूर्ण किस्सा सुनाया। उसी दिन से माँ ने उसकी पढ़ाई का भार अपने ऊपर ले लिया। वही अल को बनाने वाली थीं।

अल ने अपने मकान के पीछे एक बाग में सब्जियां उत्पन्न करने का व्यापार प्रारम्भ किया। उसकी पैदावार पोर्ट हुरन की मांग को पूरा न कर पाती थी अतः अल ने डैटरोइट से तरकारियां लाकर बेचना प्रारम्भ किया। इससे उसे पर्याप्त लाभ हुआ। फिर उसने डैटरोइट फ्री प्रेस नामक समाचार पत्र यात्रियों को बेचना प्रारम्भ किया, एक दिन उसने एक हजार समाचार पत्र बेचे और दूसरे दिन ही एक पुरानी छापेखाने की मशीन खरीद ली। उसने रेलगाड़ी में ही वीकली हेरल्ड नामक समाचार पत्र छापना और बेचना प्रारम्भ कर दिया। लेकिन एक बार माल के डिब्बे में आग लग जाने के कारण उसे उस नौकरी से हटा दिया गया। परन्तु अल निराश नहीं हुआ और अपने घर से 'पाल प्राई' नामक हास्यपूर्ण पत्र निकालने लगा। लेकिन यह भी शीघ्र ही समाप्त हो गया।

एक दिन थामस अल्वा एडीसन ने एक लड़के को रेलगाड़ी की पटरी मध्य खेलता देखा। उसके पास ही रेलगाड़ी आ रही थी। उसने दौड़कर लड़के को उठा लिया। वह लड़का स्टेशन मास्टर का था। उन्होंने आभार स्वरूप अल को टेलीग्राफी सिखाने का प्रबन्ध कर दिया जो उसने शीघ्र ही सीख ली। फिर उसे एक स्टेशन पर टेलीग्राफ करने वाले का कार्य मिल गया। जागते रहने की सूचना देने के लिए उसे प्रत्येक घण्टे पर छः की सूचना देनी पड़ती थी। अतः उसने ऐसा यन्त्र आविष्कृत किया जो स्वयं ही यह सूचना देता रहता था। एक बार उसकी यह चाल पकड़ी गई। फिर पांच वर्ष तक वह अनेकों कम्पनियों में काम करता रहा और बाद में बोस्टन में उसे वेस्टर्न यूनियन टेलीग्राफ कम्पनी में स्थान मिला। वहां उसने झींगुरों को मारने के हेतु एक यंत्र का आविष्कार किया। उसके बाद

शीघ्र ही उसने संसद में 'हां' और 'ना' के वोटों को गिनने के हेतु एक 'वोटर रिकार्ड' यन्त्र तैयार किया परन्तु वह उसके लिए बाजार में कोई स्थान न पा सका। तभी से उसने निश्चय कर लिया कि वह केवल मांग होने वाले यंत्रों का ही आविष्कार करेगा।

१८६६ में एक दिन वह न्यूयार्क के लिए चल दिया। जब वह वहां पर पहुँचा, उसके पास कोई धन न था। किसी प्रकार उसने एक चाय का प्याला पिया और एक टेलीग्राफ करने वाले व्यक्ति की सहायता से गोल्ड इण्डीकेटर कम्पनी में बैटरी वाले कमरे में सोने का स्थान प्राप्त किया। उसके वहां पहुँचने के तीसरे दिन यकायक संवाद भेजने वाले यंत्र में कोई खराबी हो गई। उस कम्पनी का सुपरिन्टेंडेन्ट इस यंत्र को न सुधार सका। जब श्रीलाज जो उसके स्वामी थे वहां आये तो अल ने उसे ठीक करने की आज्ञा मांगी और तीन घण्टों में उस मशीन को ठीक कर दिया। उसी दिन से उसे तीन सौ डालर मासिक वेतन पर वहां नियुक्त कर दिया गया। बाद में श्रीलाज ने अपनी कम्पनी को जनरल लैफटस को बेच दिया। मध्य एडीसन ने 'एडीसन यूनीवर्सल' यंत्र आविष्कृत कर लिया था जो अधिक सुगमता तथा शीघ्रता से छाप सकता था जिसे लैफर्टस ने ४०,००० डालर में खरीद लिया। न्यूयार्क में एडीसन की यह महान सफलता थी।

एडीसन ने अपनी प्रयोगशालायें स्थापित की और प्रयोग करता रहा। इसी मध्य वह मेरी स्टिलवल नामक युवती के सम्पर्क में आया और २४ वर्ष की आयु में उससे विवाह कर लिया। न्यूयार्क से पच्चीस मील दूर मैनलो पार्क को उसके पिता ने उसकी प्रयोगशाला के हेतु खोज निकाला। वहीं पर एडीसन ने माइक्रोफोन (तीव्र स्वर में बोलने वाला यंत्र) का आविष्कार किया। तभी उसके मस्तिष्क में मानवीय स्वरों को पुनः यन्त्रों द्वारा दोहराने की बात आई और उसने एक सनसनीपूर्ण 'फोनोग्राफ' का आविष्कार किया।

१८७८ में थामस अल एडीसन अवकाश मनाने गये। उन्होंने प्रोफेसर बार्कर के साथ योगिक में एक सूर्य ग्रहण को देखा और गर्मी नापने का एक यन्त्र का सफल परीक्षण किया। उसके बाद, उन्होंने अन्सोनिया कनेक्टीकट में विद्युत के नए वृत्तखण्ड प्रकाश को देखा। उन्होंने उसी क्षण विद्युति द्वारा प्रकाश खोजने का निश्चय कर लिया। चालीस पच्चास व्यक्तियों के साथ उन्होंने कठोर परिश्रम से प्रयोग आरम्भ किए। बहुत कठिनाइयों के उपरान्त १८८२ की ४ सितम्बर को उन्होंने सम्पूर्ण न्यूयार्क को विद्युत प्रकाश से जगमगा दिया। 7

१८८४ में उनकी प्रथम पत्नी मेरी का देहान्त हो गया। दो वर्ष बाद उन्होंने मीना मिलर, एक शिक्षित लड़की से पुनः विवाह कर लिया। एडीसन सदैव कठोर परिश्रम में विश्वास रखते थे। विद्युत प्रकाश की खोज के उपरान्त उन्होंने चलते फिरते चित्र दिखाने के हेतु 'किनेटस्कोप' का आविष्कार किया। लेकिन इसमें उन्हें अधिक सफलता न मिली। प्रथम विश्व-युद्ध में उन्होंने अपनी सेवायें सरकार को प्रदान कीं। उन्होंने 'अपने अन्तिम दिन १८ अक्टूबर १९३१ तक जब उनकी मृत्यु हुई कठोर परिश्रम किया। थामस आल्वा एडीसन वास्तव में महान आविष्कारक थे जिनके पास लगभग २५०० आविष्कारों के विशिष्ट अधिकार थे। उनके बाद संसार में विशिष्टता का युग प्रारंभ हुआ। निश्चय ही वह अपने युग के महान आविष्कर्ताओं में से एक थे।

The man with 2500 patents

Pages 17—19

One fine morning..................................on 11 February 1847.

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Word Meanings—Spactacle—स्पेक्टेकल—scene—दृश्य। Apparently—अपरेन्टली—evidently—स्पष्ट रूप से।

Jolted—जोल्टेड—suddenly jerked—झटके के साथ हिल गई। Tracks—ट्रैक्स—paths—मार्ग। Poured—पोर्ड—came out in large quantity बहु मात्रा में निकल पड़ा। Funnel—फनेल—a hollow cone, a metal chimney—चिमनी, धुआंकस। Luggage van—compartment for goods—सामान रखने का डिब्बा। Shrill—शरिल—sharp—तीव्र। Whistle—ह्विसल—सीटी। Cabin—कैबिन—compartment—डिब्बा। Conductor—कन्डक्टर—one who arranges—प्रबन्धकर्ता। Pail—पेल—bucket—बाल्टी। Furious—फ्यूरिअस—raging fierce—भयानक। Rear—रिअर—back part—पिछला, पीछे का। Extinguished—एक्सटिंगुस्ड—put off—बुझा दी गई। Startling—स्टार्टलिंग—impressing with fear—चौंकाने वाली। Vegetable—वेजिटेबिल—तरकारी। Curiously shaped—क्यूरिअसली शेप्ड—having strange shapes—विचित्र आकार लिए हुए। Printing press—प्रिंटिंग प्रेस—छापाखाना। Exertion—एग्जरसन—hard labour—कठोर परिश्रम, थकान। Formidable—फोरमिडेब्ल—dreadful—भयानक। Box—slap—घूंसा, तमाचा।

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Word Meanings :—Pile—पाइल—heap—ढेर। Wrecked—रेक्ड—broken—टूटे—फूटे। Oddments—ओडमेंटस remains of broken set—टूटी फूटी वस्तु के शेष भाग। Sponge—स्पन्ज—destroyed things—नष्ट हुई वस्तुयें। Grocery—ग्रोसरी—a grocer's store—पंसारी, किराना। Haberdashery हेबरडेसरी—goods sold by a haberdash—बिसाती का वाना। Apprentice—अप्रेंटिस—beginner—नवसिखुआ। Partial—पारसिअल partly—थोड़ी। Deafness—बहरापन। Pig-headed—पिगहैडेड—obestinate—हठी। Self-made—सेल्फमेड—self supported—स्वयं बने हुए। Mariners—मेरिनर्स—sailors—नाविक। Enterprising—एन्टरप्राइजिंग—adventurous साहसी। Emigrated—एमिग्रेटेड—left their country tosettle in another—अपना देश छोड़ कर दूसरे में बस गये। School marm—स्कूल मार्म—school keeper teacher—अध्यापिका। Tap room—टेप रूम—a room in which liquar is sold or drunk—मदिरा पीने का

कमरा, मदिरालय । Colonies --कोलोनीज—independent states founded emigrants—उपनिवेष । Independence—freedom —स्वतन्त्रता । Revolutionaries - रिवोल्यूसनरीज—क्रान्तिकारी । Scattered—स्केटर्ड—shattered—तितर बितर कर दिया ।

Pages 19–20

That boy is addled....................through the years.

Page 19

Word Meanings—Elementary—ऐलेमेंटरी—rudimentary—प्रारम्भिक । Rapidly—रेपिडली—quickly—शीघ्रता से । Explored—एक्सप्लोर्ड—examined thoroughly—पूर्ण रूप से निरीक्षण किया । Suffocated—सफोकेटेड—choked—गला घोंटा हुआ । Elevater-इलेवेटर—a machine for hoisting—ऊपर उठाने का यन्त्र । Traffic-center—आने जाने का केन्द्र । Continent—कोन्टीनेन्ट—महाद्वीप । Cosy—कोजी—comfortable आरामदेह । Addled - एडल्ड—rotten not normal - खराब बिगड़ा हुआ ।

Page 20

Word Meanings :—Crazy—क्रेजी—mad—पागल । Flashing—shining with anger—क्रोध से चमकते हुए । Chat—talk—वार्ता । Fist—फिस्ट—the clenched hand—घूंसा Quench—क्वेंच—बुझाना । Determined—डिटरमिन्ड—decided firmly—पूर्ण रूप से निश्चय कर लिया । Constant—contious—निरन्तर ।

Pages 22–23

First News paper printed.. ....of his age.

Page 22

Word Meanings:—Venture—वेन्चूर—undertaking—साहसी । Kitchen—किचन—रसोई घर । Allotment—अलोटमेंट—part—भाग । Nei hbours—नेबर्स—पड़ोसी । Chemicals—केमिकल्स—chemical preparation—रसायन पदार्थ ।

Brisk—ब्रिस्क—lively, active—तीव्र । Mused—म्यूज्ड—thought—सोचा । Excitedly—एक्साइटेडली—with excitement—उत्तेजना के साथ । Intended—इन्टेन्डेड—wished—चाहता था । Gave in—agreed सहमत हो गए । Glimpse—गिलम्पस—momentary view—झांकी । Buzzing—बजिंग—noisly—कोलाहल पूर्ण । Panting—पैंटिंग—breathing heavily हांफते हुए ।

Page 22

Word Meanings:—Passengers—पैसेन्जर्स—travellers—यात्री । Headquarters—हैडक्व टर्स—chief office—प्रधान कार्यालय । Chemistry—केमिस्ट्री—the science which treats of the elem nts and their laws—रसायन शास्त्र; Persuaded—परसुयेडेड—convinced विश्वास दिलाया; Shrugged—शगर्ड—raised shoulders—कन्धे सिकोड़े ।

Page 23

Word Meanings:—Installed—इन्सटाल्ड—fixed, arranged—लगा दिया; Reporter—रिपोर्टर one who reports news—संवाददाता; Edeter—एडीट—सम्पादक; Compositor—कम्पोजीटर—छापा लगाने वाला; Publisher—पब्लिशर—one who publishes—प्रकाशक; Circulation manager—समाचार वितरण करने वाला अधिकारी; Advertising agent—एडवरटाईजिंग एजेन्ट—विज्ञापनकर्ता; Newsvendor—न्यूजवेण्डर—news paper sellor—अखबार बेचने वाला; Local—स्थानीय; Columns—कोल्म्स—vertical division of the page—पृष्ठ का भाग; Propriter—प्रोपराइटर—owner—स्वामी; Forsee—फोरसी—to see of future—(भविष्य) आगे देखना ।

Page 23-24

A very long...............that's telegraphy.

Word Meanings :—Occurd—अकर्ड—happened—घटित हुई; Requisi es—रेक्यूजिस्ट्स—necessary things—आवश्यक वस्तुयें; Curve—कर्व—मोड़; Phosphorus—फोसफोरस—एक जलने वाला द्रव जो अन्धेरे में चमकता है; Squatting—स्क्वेटिंग—

sitting on heels—पालथी मारकर बैठना; Piercing—पियर्सिंग—fierce—अत्यधिक दुख; Enterprises एन्टरप्राइजेज—adventures—साहसिक कार्य; Cellar—सेलर—underground room—तहखाना; Suggestion—सजेसन—सुझाव; Journal—जनरल—magazine—पत्रिका; Foibles—फोयबिल्स—moral weaknesses—चरित्र की दुर्बलतायें; Fads—फेडस craze—झक, धुन; Chronical—क्रोनिकल—newspaper—समाचार पत्र; Scruff—स्क्रफ—the back of the neck—गर्दन का पिछला भाग, टेंटुआ; Frog-marched—pushing forward like frog—धक्का देते हुए चलना; Tossed—टोस्ड—threw—फेंक दिया; Talents—टालेन्टस—natural ability—प्राकृतिक गुण; Facinating—फेसिनेटिंग charming—मुग्ध करने वाला; Spectacle—स्पेक्टेकिल—scene—दृश्य; Shunting—शन्टिंग turning the railway carriages—रेलगाड़ियों को इधर उधर बदलना; Freight—फ्रेट—hire किराये वाला, माल ले जाने वाला; Gravel—ग्रावेल—water worn pebbles—कंकड़; Dashed—rushed—तेज़ी से बढ़ गया; Rescued—रेस्क्यूड—saved—बचाया गया था; Overwhelmed—ओवरव्हेल्ड—agitated—घबड़ा दिया; Gratitude—ग्रेटीटयूड—thankfullness—धन्यवाद, आभारी; Reflection—रेफ्लेक्शन—thought—विचार; Operators—ओप्रेटर्स—workers—कार्यकर्ता; Alphabet—अल्फाबेट—वर्णमाला; Mysterious—मिस्टीरिअस—रहस्यमय; Apparatus—अपरेटस—machine—यन्त्र; Dachshund—डक्शुन्ड—a badger dog—रीछ की भांति का कुत्ता।

Pages 26 - 29

The first invention......................in his pocket.

Word Meanings:—Perseverance—परसिवयरेन्स—Patience—सन्तोष। Recommended—रिकमंडेड—suggested as fit person—योग्य प्रस्तावित किया। Appreciated—अपरिसियेटेड—praised—प्रशंसा की। Obvious—ओबवियस—clear—स्पष्ट। Dispatcher—डिसपेचर—sender—भेजने वाला। Investigate—इनवेस्टीगेट—to find the cause—कारण पता लगाना। Ingenious—इनजीनियस—skilful—चतुर, प्रवीण। Gadget—गेडगेट—machine—यन्त्र। Automatically—ओटोमेटिकली—

mechanicelly—आप से आप। Notched—नोच्ड—indented —दाँतेदार । Reliable—रिलाइबल—dependable—विश्वस्त । Mishap—मिशप—misfortune—अभाग्य । Carbay—कारबाय—a large globular glass bottle protected with wicker work —करावा । Sulphuric acid—सल्फ्युरिक एसिड—गन्धक का तेजाब । Fluid फ्लूयड—liquid substance तरल पदार्थ, द्रव पदार्थ । Carpat—कालीन । Was summoned was called to explain—बुलाया गया । Cables—केबल्स—telegrams received from foreign lands—विदेशों से प्राप्त तार । Transcribed-ट्रांस्क्राइब्ड - copied-प्रतिलिपि लिख दी Slurring-स्लरिंग Pronouncing indistinctly—अस्पष्ट उच्चारण । Omitting—leaving—छोड़ते हुये । Colleagues—कोलीग्स—partners—साथी । Infested—इन्फेस्टेड—filled with—भरे हुये । Cockroaches—कोकरोचेज—झींगुर । Prompted—प्रोम्पटेड—inspired उत्साहित किया । Tinfoil – टिनफोयल an alloy of lead tin reduced to a thin leaf—रांगे की पत्री । Electrocuted—ईलक्ट्रोक्यूटेड—was in flicted with the death penalty by means of electricity–विद्युत के द्वारा मृत्यु प्राप्त करना । Hustle—हसल—to thrust—ढकेलना । Complexion—कम्लेक्सन—appearance of the face—मुख का रंग रूप । Imprudent—इम्प्रूडेन्ट—bold—धृष्ट । Patent—पेटेन्ट – specific tight–विशिष्ट अधिकार पत्र । Fool-proof—फूल प्रूफ—machines not liable to inflict damage though carelessness or stupidity—यन्त्र जो असावधानी या मूर्खतावश हानिग्रस्त न हो सके । Perfection—पूर्णता । Grinned—ग्रिन्ड—showed teeth दांत दिखाये । Filibustering—फिलिबस्टरिंग—making unauthorised war—अनाधिकार युद्ध करना । Stock exchange ticker—स्टोक एक्सचेन्ज टिकर—a watch for the flace whose stocks and shares are bought and sold—सरकारी हुन्डी बेचने और खरीदने वाले स्थान के हेतु एक यन्त्र ।

Pages 29—33

A cup of tea..................big bank account.

Page 29

Word Meanings :—Mighty—माई ी—powerfull—शक्तिशाली । Preoccupied—प्रिओकूपाईड—busy—before hand—पहले से ही व्यस्त । Ware-house—वेयर हाऊस—a store house for goods—माल गोदाम । Depresed—डेप्रेस्ड—nervouse—हताश । Beckoned—बीकण्ड—made sign—इशारा किया (संकेत किया) Proffered—प्रोफर्ड—offered as gift—भेंट की । Consignment—कन्साइन्मेंट—goods consined—भेजा हुआ माल । Stock-broker—स्टोक ब्राकर—हुण्डी के दलाल ।

Page 30

Word Meanings:-Suspend-सस्पेन्ड— cheek-रोकना । Enormous -इनोरमस—great—महान । Inflation-इन्फलेशन-the act of inflating—फूल जाना, बढ़ना । Rocketed—रोकेटिड-swiptly flied upword-तेजी मे ऊपर उठना । Precious—प्रेसस-valuable—मूल्यवान । Transmitter—ट्रांसमीटर—सम्वाद भेजने वाला यन्त्र Burrowing—बुरोईङ्ग—making narrow way—सकीर्ण रास्ता बनाते हुये ।

Page 31

Word Meanings:—Oblivious ओब्लीविअस—forgetful—भुलाये हुये । Tumult—टुमल्ट—noise—शोर । Sacked—सेक्ड—turned out-निकाल दिया Technical manager-manager having particular knowledge—प्रावैधिक प्रबन्धक । Fantastic—फैन्टास्टिक—odd—विचित्र (अपूर्व) । Crazy—क्रेजी—mad पागल ।

Page 32

Word Meanings:—Speculation-स्पेकुलेशन-सटादिया, कल्पना । Plight—प्लाईट-misfortune-दुर्भाग्य, दुःख । Memoirs—मेमोअर्स—written descriptions—लिखित वर्णन । Mumble—मम्बल—to muttere—अस्पष्ट बोलना ।

Page 33

Word Meanings :—Cashier—कैशिअर—खजानची

Hoax- होक्स—a deception in joke—हंसते हुये छकाना, ठगना। Phenomenal - फेनोमिनल - great महान Crumpled—क्रम्पल्ड—crushed to gather—ममल दिया। Greenhorn—ग्रीनहोर्न— मूर्ख युवा। New comet—नौ मखिया। Stuffed—ठूंस लिया।

Pages 34—38

The 'Etheric Force'......radio as well.

Page 34

Word Meanings:—Bloated—ब्लोटेड—puffed up-सूजा हुआ, भरा हुआ। Manufacturer—मैनूफेक्चरर—one who make things—वस्तुयें बनाने वाला। Innovations—इनोवेशन्स—new things, novelties—नवीन वस्तुयें Simultaneously—साइमल्टेनियसली—acting at the same time साथ साथ कार्य करना। Automatic—ओटोमेटिक—working by itself, mechanically स्वत: कार्य करने वाला। Provided—प्रोवाईडेड—offered—प्रदान किया। Enthusiastic—इन्थूजियस्टिक—energetic उत्साही। Skilled—स्किल्ड—perfect प्रवीण। Collaborator—कोलाबोरेटर—one who works jointly साथ ही मिलकर काम करने वाला। Entrust—इन्ट्रस्ट—to give in trust—सौंपना।

Page 35

Word Meanings:-Unkempt—अन्केम्प्ट-rough-भद्दा। Tramp—ट्रेम्प—vagrant घुमक्कड़। Complained कम्प्लेन्ड—शिकायत की Research - रिसर्च—a critical investigation—अन्वेषण। Chemistry—केमिस्ट्री—the science which treats of the elements and their laws—रसायन शास्त्र। Physics—फिजिक्स—the science which treats of the properties of matter—विज्ञान पदार्थ। Shocking—शोकिंग—disgusting—उद्वेगकारी। Capable योग्य।

Page 36

Word Meanings:—Blushed—ब्लश्ड—felt shy—झेंप गई। Rapped—रैप्ड—uttered sharply—तेजी से बोल दिया। Wedding—वैडिंग—marriage—विवाह। Bridegroom—ब्राइड-

क्रम—टुकड़ा। Fully equipped—completely arranged with necessary things—पूर्ण सुसज्जित। Was conceived—वाज कन्सीव्ड—was imagined—कल्पना की थी।

Page 37

Word Meanings: Outfit—आउटफिट—equipment—सामान। Centennial Exhibition—सेन्टेनियल एग्जीबीसन—शताब्दिक प्रदर्शनी। Anniverry—एनीवर्सरी—a yearly celebration of an event—वार्षिक उत्सव। Declaration of Independence—डेक्लेरेशन आफ इंडेपेन्डन्स—स्वतन्त्रता की घोषणा। Fascinating—फसिनेटिंग—charming—मुग्धकारी। Vastly—वास्टली greatly अत्यधिक। Contrivance—कंट्रीवेन्स—appliance—तरीका योजना। Carb n—a non metallic element—कोयला, आलात द्रव्य Reacted—रिएक्टेड—प्रतिक्रिया की। Corresponding—करेस्पोंडिंग—in harmony with—अनुरूप होना। Variations—वेरियेसन्सं—changes—परिवर्तन। Resistance—रेसिस्टेन्स—opposition, hindrance—अवरोध। Cumbersome—कम्बरसम—rough भद्दा। Cylinder—साईलिन्डर—roller shaped past of the machine—तन्त्र का वेलन। Crank—क्रेन्क-धुरे का मुड़ा हुआ भाग। Disti ctness-clearity—स्पष्टता। Curious—क्यूरिअस strange विचित्र। Phenomenon—फेनोमेन—view—दृश्य। Steel—स्टील—पक्की लोहे की छड़ Core—कोर—central part—भीतरी भाग। Induction—इन्डक्सन—बिना अन्य पदार्थ के स्पर्श किये विद्युत के धारा प्रवाह होने का साधन।

Page 38

Word Meanings:—Sparks—स्पार्कस—चिन्गारे। Etheric force—एथेरिक-फोर्स—celestial power—आकाश सम्बन्धी शक्ति।

Pages 38–41

The kind's Ears.........voice for the typist.

Page 38

Word Meanings:—Foreshadowed—फोरशेडोड—reflected beforehand—पहले से ही प्रतिबिम्बत। Ancient—एन्सि-

पास्ट — old — पुरानी। Folk tales फोक टेल्स—लोक कथायें। Fairy — परी। Eminently — एमीनेन्टली—greatly—महान रूप से। Dreadful—ड्रेडफुल—fearful—भयानक। Reeds—रीड्स—a type of grass—नरकट। Pricked—प्रिक्ड—pierced—वेध दिया।

Page 39

Word Meanings:—Needle—नीडल—सुई। Cylinder—round roller—यन्त्र का बेलन। Jerked—जर्कड—moved swiftly—तेजी से हिली। Vibrations—वाइब्रेसन्स—shiverings—कम्पन। Membrane—मेम्ब्रेन—thin fibrous layer—झिल्ली। Recorded—अंकित किया जाना। Ear trumpet—कान की दुन्दुभी। Parchment—पार्चमेंट—skin—चर्मपात्र। Mounted—माउन्टेड—fixed high—ऊपर चढ़ी हुई। Pivot—पिवट—central point—प्रधान आधार। Wrapped—रैप्ड—लपेट दिया। Tinfoil—टिनफायल रांगों की पट्टी। Nursery—नर्सरी—related to children—बच्चों वाली। Rhyme—राइम—poem—कविता। Fleece—फ्लीस—भेड़ों की ऊन।

Page 40

Word Meanings: Fright—फ्राइट—fear—भय। Faintly—फेन्टली—dimly—धीरे से। Distinctly—डिस्टिन्क्टली—clearly—स्पष्ट रूप से। Reverting—रिवर्टिंग—coming back—वापिस होते हुये। Uncanny—अन्केनी—mysterious—विलक्षण। Performance—परफोरमेंस—show—प्रदर्शन। Christened—क्रिश्चेन्ड—named—नाम दिया। Ventriloquist—वेन्ट्रिलोक्विस्ट—one who knows the art of speaking in such a way that the voice seems to come from a distance—गरुड़वाद जानने वाला, ऐसी बोली बोलने वाला जिससे मालूम हो कि शब्द दूर से आ रहा है। Subsided—सब्साईडेड—supressed—दब गई। Clock work—क्लोकवर्क—systematically—नियमित।

Page 41

Word Meanings:—Nickel—in the slot—निकल इन दी स्लोट—a kind of while metal in the slitt—किसी यन्त्र के दरार में भरी हुई गिलट की भांति। Arcades—आर्केडिस—row of

arches supported on columns खमों पर बने हुये महराव । Wax cylinders—वाक्स साइलिन्डरस—rollers made with wax मोम के बने बेलन ।

Pages 41–44

An Eclipse that........over forty hours.

Page 41

Word Meanings :—Initial—इनीसिग्रल—occurring at the beginning—प्राथमिक । Research—रिसर्च—finding new things—अन्वेषण । Expedition—ऐक्सपेडीसन—a voyage of enterprise—साहित्यिक यात्रा । Eclips - एक्लिप्स—ग्रहण । Unique—यूनीक—unparaled - अद्वितीय । Tesimeter—टेसीमीटर—ताप नापने वाला यन्त्र । Arc-light—आर्क लाईट—light with curve—वृत्तखन्ड प्रकाश । Dynamo—डायनमो—बिजली बनाने का यन्त्र । Primitive—प्रिमिटिव—old—पुराना । Installation—इन्सटालेशन—the act of instaling—लगाने का कार्य । Bluish—ब्लूइश—slightly blue—हल्का नीला । Flickering फ्लकरिंग—shivering - कम्पित होता हुआ ।

Page 42

Word Meanings:—Dazzled–डेजल्ड–glittered—चौंधा दिया । Performance–परफोरमेन्स–show–प्रदर्शन । Tallow–टेलो–animal fat melted down—चर्वी । Obvious—ओविअस—clear —स्पष्ट । Panic—पेनिक—excessive terror—अत्यन्त भय । Ignoramus—इग्नोरेमस—ignorant Person—अज्ञानी पुरुष । Boaster—बोस्टर—शेखीखोर । Plants—प्लान्टस—machinery—यन्त्र । Screw—स्क्रू—पेच । Steadier—स्टीडियर—firmly fixed–पूर्ण रूप से स्थिर । Obnoxious–ओब्नोक्सस—hateful–अरुचिकर । Fumes—फ्यूम्स—smoke—धुंआ ।

Page 43

Word Meanings: Incandescenc –इन्कांडेसन्स–a white heat—परितप्त ज्वाला । Source—साधन । Relays—रिलेज—replace—के स्थान पर रखना । Tally—टेली—reckoning—चिन्ह करना, मिलाना । Notified—नोटीफाईड–inform—सूचित करना ।

Nap—नेप—झपकी। Short sleep-community singing—एक साथ मिलकर गाना, सामूहिक गाना। Solo—सोलो—a song sung by one person—अकेले व्यक्ति का गाना। Zither—जिथर—a stringed musical instrument—एक प्रकार का सितारा। Vacuum pumps—वेकम पम्पस वायु से शून्य करने वाले पम्प। Glow—ग्लो shine चमकती। Carbonized—कारबोनाईज्ड- कारबन लगे हुये कागज। Platinum -प्लेटिनम—a kind of precious white metal Cardboard -कार्डबोर्ड—paste board—मोटा कागज। Coconut कोकोनट—नारियल। Maple–a kind of shady tree—एक प्रकार का छायादार वृक्ष। Calluloid—केलुलोइड an artificial substance like the ivory—कचकड़ा। Confided—कन्फाईडेड- limited—सीमित रखा।

Page 44

Word Meanings:—Clinging क्लिगिंग—hanging-लटक रहा था। Conductor—कण्डक्टर—medium for transmitting of electricity—बिजली का संचालक। Spool—स्पूल—तकली। Muffle farnace—मफिल फरनेस a placed into the furnace—भट्टी मे रखी हुई तश्तरी। Fascination—फेसिनेशन—मुग्धता।

Pages 45-49

The man and his ....specialist began.

Page 45

Word Meanings:—Ingenious—इन्जीनिअस—original मौलिक। Diligence—डिलीजेन्स—hard work कठिन परिश्रम। Commercial—कोमर्सियल— related to business — व्यापारिक। Availed–अवेल्ड-used the benefit of–लाभ उठाया। Electrically-lit—विद्युत द्वारा प्रकाशित Metropolis—मेट्रोपोलिस—capital—राजधानी। Insuperable—इन्सुपरेबल—unsurmountable—असहाय। Organizational—ओरगेनाईजेस्नल—related to the management—व्यवस्था सम्बन्धी; Financial–फाइनेन्सिअल—economical—आर्थिक। Incandescent इन्कन्डेसेन्ट—glowing—चमकते वाले। Sokets—सोकेटस—a hollow in which any thing is fitted—कोई वस्तु लगाने का खाली

स्थल । Improvised—इम्प्रोविज्ड-composed—बना लिया । Mellow - मेलो—jovial—मधुर । Supplanted—सप्लान्टेड—displaced—हटाया गया । Conciousness awareness—चेतना । Proclaimed—प्रोक्लेम्ड—declared—घोषित किया गया । Glimpse—ग्लिम्प्स—suddenview - झांकी ।

Page 46

Word Meanings —Candid - केन्डिड—fair – सुन्दर, खरा । Prominent —प्रोमीनेन्ट – effective—प्रभावशाली । Grizzled – ग्रिजिल्ड—somewhat grey—हल्के भूरे । Broad shouldered—ब्रोड शोल्डर्ड—उठे हुये चौड़े कन्धे । Strong chesled—स्ट्रोंग चेस्टेड —मजबूत सीना रखने वाला । Muscular —मस्कुलर—strong – शक्तिशाली । Moderate—मोडरेट—temperate—परिमित मध्य श्रेणी का । Collaborators—कोलाबोरेटर्स—Co workers – साथ २ कार्य करने वाले । Genius–जीनियस–great natural ability—अपूर्व बुद्धि वाला । Inspiration—इन्सपायरेसन—प्रोत्साहन । Perspiration—परस्पायरेसन—hard labour – कठोर परिश्रम, पसीना । Typhoid—टाईफाइड–सन्निपात ज्वर । Vigrously—विगरस्ली–with great energy—उत्साह से । Seminary–सेमिनरी–academy—शिक्षालय । Mowing machire – mower, machine to cut the grass—घास काटने का यन्त्र । Binder–बांधने वाला । Kinetoscope—किनटोस्कोप—an apparatus by which a series of instant aneous photographs is shown on the screan—चलते हुए चित्रों को दिखाने वाला यन्त्र ।

Page 47

Word Meanings: —Motion—मोसन—action, movement—गति Expose—show—दिखाना । Subsequent–सबसेक्वन्ट—one after another एक के बाद एक । Projection—प्रोजेक्सन—Throwing forward– आगे फेंकने वाला । Retina —रेटिना–आंख के पिछले भाग का चित्रपट । Blurs—ब्लर्स—disfigures—रूप बदलता है ।

Page 48

Word Meanings:—Arcades—आर्केड्स–मेहराब । Fzeep

show—पीप शो—To see something by peeping through a hole—झांक कर देखने वाला । Accompaniment—एकम्पनीमेंट—something that attends another—सहायक । Turntable—ट्रनटेबुल—A revolving platform—घुमाने का चबूतरा । Acrobates—एक्रोवेटस—rope—dancers—नट । Skipping—स्किपिंग—jumping—कूदते हुये । Organ grinder—ओरगन ग्रिन्डर—a man who plays on a kind of musical instrument—अरगन बाजा बजाने वाला । Concentrated—कन्सेन्ट्रेटेड—paid deep attention—ध्यान दिया । Legend—लीजेंड—a romantic story—अपूर्व कहानी । Decades—डिकेड्स—series of ten years—दस वर्ष का समय । Soaring—सोरिंग—high—उच्च ।

Page 49

Word Meanings:—Innumerable—इन्यूमरेबल—many—अनेकों । Specialized—स्पेशियलाईज्ड—made specific—विशिष्ट किया हुआ ।

Questions And Answers

प्रश्न और उनके उत्तर

Q. 1. Describe the ancestry of the great inventor Thomas Alva Edison.

थामस अल्वा एडीसन महान आविष्कारक के वंशज का वर्णन करो ?

Ans.:—

The great inventor Thomas Alva Edison be longed to an old and renowned ancestry. The Edisons were generally rebellious who remained self made men for generations. Originally, they were inhabitants of Halland. They were adventurous persons and wanted to go even beyond their country. They were fisher-man and mariners. They left for Canada and settled in vienna.

Thomas Alva Edison's father Samuel Edison fell

in love with a school teacher and married her soon. His tap-room became a meeting place and training ground for rebellious who wanted to free Canada from foreign rule. Any how the revolt was unsuccessful and they had to go to the United States.

Samuel Edison settled in the town of Milan which was an important traffic centre of water ways. Thomas Alva Edison was born here on 11 February 1847. In fact, he belonged to a family which was known for its dignity and self dependence.

Q. 2. What part did his mother play in making the life of Thomas Alva Edison.

थामस अल्वा एडीसन का जीवन बनाने में उसकी माता ने क्या भाग लिया ?

Ans:—

Thomas Alva Edison was a very keen boy from the very beginning. He always inquired the true nature of things and tried to grasp it with complete hold. He was not an ordinary boy in his school. He was so anxious to know facts and kept on asking questions always that teachers did not like him.

Once it so happened that the Inspector of Schools came to visit his institution. The teacher told him about boys. While he was telling about Al. he pointed that he was an addled boy Al heard his words and come back to his house. He asked his mother to tell him the meaning of addled boy. The mother told it but she asked where did he find it. On knowing the whole incident, she took Al to his teacher and never allowed him again to study there.

Really, Thomas Alva Edison was much proud of

his mother. She moulded his life in such a way that he became one of the greatest men of his age. She understood his nature perfectly and satisfied his craving for learning new things. Nodoubt, she was the tree maker of the great inventor Thomas Alva Edison.

Q. 3. What was the first business venture of Thomas Alva Edison ?

थामस अल्वा एडीसन का प्रथम व्यापारिक साहसिक कार्य क्या था ?

Ans:—

Thomas Alva Edison was a successful business man since his birth. He had a fine grasp of all surroundings and always took the best out of that.

His father had settled in Port Huron. There was a garden attached to the kitchen of his house. It was given to Thomas Alva Edison to grow vegetables. He did so and supplied them to his neighbours. It proved to be a great success. Soon he felt that his supply was too limited to meet the demand of vegetables in Port Huron. So he decided to travel as Detroit to bring vegetables from there. He sold it at a profit in his own town.

It opened new possibilities for him and soon he became the regular newspaper boy to sell the Detroit Free Press. But he continued his first business venture to supply vegetables to the people in Port Huron.

Q. 4. How did Thomas Alva Edison enter the newspaper world and with what results ?

थामस अल्वा एडामन समाचार पत्र के संसार में कैसे प्रविष्ट हुआ इसका क्या परिणाम रहे ?

Ans:—

Thomas Alva Edison had a very fertile brain. He was always busy to pass his time in the most profitable way. His first business venture at the age of twelve was to supply vegetables from Detroit to the Port Huron market. But he felt that enough spare time was left with him in between catching the trains. So he became a member of the Young Men's club and later on offered himself as a regular newspaper boy to the railway company. He used to sell Detroit Free Press in trian and on plat-forms.

One day Al was lucky enough to sell 1000 copies and next day purchased a second-hand printing press. He installed it in his luggage van and printed his own paper the Weekly Herald on the train. He was keenly interested in experiments and did so on the train. Once he caused a fire in the running train and was turned out from his service.

But Al was not totally disappointed. He started the newspaper again renaming it 'Paul Pry'. In it he discussed the weaknesses and hobbies of important persons of the city. It was an amusing paper but a few persons were much annoyed with his writings. As a result one business man became furious on him and threw him in a river. It brought an end to the newspaper career of Thomas Alva Edison

Q. 5. What led Thomas Alva Edison to make his first invention ?

किसने थामस अल्वा एडीसन को प्रथम आविष्कार करने के लिये बाध्य किया है ।

Ans:—

The careen in newspaper world was over for The-

mas Alva Edison. He was waiting to start some new work. Mean while an opportunity came his way. He was enjoying the sight of shunting on the platform of Mount clemens station. Suddenly he marked a boy ho was playing in the gravel of the line on which a wagon was rushing with speed. He ran at once saved the boy at the risk of his own life. He was the son of the station master who felt much obliged to him. Thomas Alva Edison showed his desire to learn telegraphy.

Soon Al became a perfect telegraphist and was appointed at strat ford Junction as a night operator With the help of the station-master. Along with other duties, one was to send the signal '6' to the train dispatcher's office at each hour. Is showed that the operator was not asleep.

Thomas Alva Edison wanted to take the both advantages. The signal must reach there at each hour and he might enjoy the sound sleep. So he invented an original gadget which used to send the signal mechanically at the right hour. It was a clock and a wheel with a notched rim which acted in such a way that the signal was given off. Though the first invention of Al was not much appreciated at that moment, but it proved a fine speciman of his creative genius.

Q. 6. How did Thomas Alva Edison get the employment in the gold Indicator Company in New-York ?

थामस अल्वा एडिसन का न्यूयार्क में गोल्ड इन्डीकेटर कम्पनी में किस प्रकार नौकरी मिली ?

Ans:—

Thomas Alva Edison had invented a 'votere corder' but he could not find a market for it. So he decided

to leave to New York to find buyers and backers for his inventions. He reached there with a dollar in his pocket. He could not get any service immediately. Anyhow, he found a telegraphist who supplied him a place to sleep in the battery room of his firm, the Gold Indica or Company.

Mr. Laws was the owner of this firm and had installed the gold-reporting telegraphs in the offices of stockbrokers. Edison showed a keen interest in this system. One day the transmitter of the gold-reporting telegraph stopped suddenly. The suprintendent failed to trace the defect Messengers from subscribers stormed into the building to get it repaired immediate·y.

Mr. Laws wanted someone to put it right soon. Thomas Alva Edison went to him and expressed his willingness to remove the defect. With in two hours the machine began to work again. Mr Laws was deeply impressed with him and offered a salary of 300 dollars a month to him as the technical manager of the whole plant. Edison accepted it with great pleasure and became an employee of the Gold Indicator Company in New York.

Q. 7. What do you know about the marriage of Thomas Alva Edison.

थामस अल्वा एडिसन के विवाह के बारे में तुम क्या जानते हो ?

Ans:—

Thomas Alva Edison was a hard worker and an ordinary-looking fellow. He did not care much for his dress and appearance. But once he came in contact of a girl who played an important part in his domestic life.

On a rainy day, Edison was coming back from his laboratory with an umbrella in his hand. He was joined soon with a girl Mary Still well who had come out to while away her time. As she had us umbrella she accompanied him. During talks, Edison proposed to her to join his laboratory as a research worker. She did so and proved herself a very capable and valuable assistant.

Thomas Alva Edison had an intention for her in his mind. One day in the middle of an experiment on telegraphy, he wired a telegram. 'Have been thinking much about you lately stop will you marry me query. Mary Still we l smile l and informed back. 'That would make me very happy.'

The love had reached to the climax and marriage took place on the following christmas day. Thomas Alva Edison was twenty four years old. They lived a peaceful domestic life in future.

Q. 8. Why was Thomas Alva Edison called the 'Wizard of Menlo park.'

थामस अल्वा एडिसन को 'मैनलो पार्क का जादूगर' क्यों कहा गया था ?

Ans:—

Thomas Alva Edison wanted to give shape to certain ideas which he could not do in his laboratory in New York.. So, with the help of his father he built his new laboratries in Menlo Park which was twenty five miles from there. He moved to this place with his family and the whole equipment.

One day in 1877 Edison was working on a recording machine for telegraphic signals. As he spoke,

something, the needle jerked and pierced his finger. Suddenly something struck to his mind He realised that the vibrations of human speech could be recorded on some surface which might be reproduced again with certain arrangements.

He prepared a rough sketch of a machine and asked his co-worker John Kruesi to get it prepared soon. The model was brought to him next day. Edison recited a nursery rhyme into its eartrumpet.

Mary had a little lamb.
It fleece was white as snow... ...

He put the needle again and the machine repeated the same rhyme. The invention of phonograph was complete. The 'talking machine' as Americans called it was a great wonder to all. Thousand visitors came to see it in Menlo Park. The invention of phonograph became so popular and sensational all over the world that newspapers called Thomas Alva Edison 'The Wizard of Menlo Park.'

Q. 9. What did inspire him to invent the electric lamp ? How was he successful to give it a practical shape ?

थामस अल्वा एडीसन को विद्युति दीपक (लम्प) आविष्कृत करने का प्रोत्साहन कहाँ मिला ? वह इसे क्रियात्मक रूप देने में कैसे सफल रहा ?

Ans:—

Thomas Alva Edison was a great inventor. Once he was invited by his friend Professor Barker to observe an eclipse of the sun at Wyoming From there, he went with him to see the new electric arc-light in Ansonia which William Wallace has installed there. Edison

observed it silently and decided in his heart to find a better electric light.

He brought a dynamo from Wallace and began the research in his laboratories in Menlo Park. His aim was to subdivide the electric current and to send it into great number of lamps where some object would glow. With a staff of forty or fifty persons, he started the work. It was a continuous hard labour for two years. The work continued for twenty four hours and every material was tested for the purpose. Glass bulbs were emptied of air and carbonised things were used But it did not glow.

One year passed but no success was achieved. People were becoming nervous. But suddenly he found a thing while his fingers were playing with a loose button on his coat He ordered his persons to carbonise the short pieces of thread. They were placed in empty glass bulbs. As the current passed, they began to glow. His aim was fulfilled.

Soon, he developed his electric lamp to burn for five hundred hours. The electric age began and the whole district of New York was lighted with electric lamps on 4 September 1882. Thomas Alva Edison gave a practical shape to the idea which was considered impossible in the beginning.

Q. 10. What is considered as Edison's most popular achievement after his electric lamp ?

विद्युत दीपक के उपरान्त एडिसन का कौनसा कार्य सबसे अधिक प्रचलित माना जाता है ?

Ans:—

The invention of electric lamp was a great sensation. Thomas Alva Edison invented several other things after

it but the most popular achievement was the pinetoscope a machine to show the motion pictures.

He was waiting for a proper opportunity. As the celluloid film was introduced in the market he built a camera which could expose a series of still photographs in such a way that it showed the motion as we find in real life. This deception was based on the fact that retina retains the image of a picture after it has disappeared from the view. His plan was to offer some new entertainment to the persons who were lacking interest in phonographs.

The pinetoscope presented a series of individual still pictures with such a continuous speed that the movement appeared a reality to them. A phonograph accompanied the music with the show. No—doubt it became quite popular as it was the beginning of the great film industry.

Q. 11. Give a short character-sketch of Thomas Alva Edison.

थामस अल्वा एडिसन का संक्षिप्त चरित्र चित्रण दो।

Ans:—

Thomas Alva Edison was one of the greatest inventor of his age. He was born on II February 1847 in the little town of Milan. His father was a business man and his mother came from a family of American revolutionaries.

Edison was a very curious boy from the very beginning of his life. He always had original ideas and tried to put them in practical shapes. He was a hard worker. According to his definition of genius, Genius is I percent inspiration and 99 percent perspiration.

His physical appearance was dominating. He had a large friendly candid, energetic face with a prominent nose and a finely moulded mouth. A lock usually hung over the left side of his high forehead. His shoulders were muscular, long, sensitive and active. In fact, he was a perfect combination of a dreamer and a practical men.

Thomas Alva Edison had a fine brain. After perceiwing certain idea, he thought deeply over it for some time and then approached his aim with full confidence. So he did in case of electric lamp. He did not hesitate to take the part of a technical manage in the Gold Indicater company in New York. He was so confident of his knowledge that even the fastest telegraphist could not deceive him.

He was not only an inventor but was a perfect business man. Even in his child hood, he supplied vegetables from Detroit of Port Huron and utilised the spare time in selling newspapers. After inventing the electric lamp. He first exploited the commercial possibilities of it. Only then he put it on a large—scale production.

In fact, Thomas Alva Edison was the last universal inventor. He took patents for 2500 inventions and innovations. He had an unending chain of technical and scientific ideas. He approached then all with great energy and brilliant capacities. His method of research was unque in the history of modern inventions. He died on 18 October 1931, at the age of 84 and with him died the age of the 'inventor at large.'

Lesson 3

THE MAN WITH THE MAGIC BOX

(*William Friese—Greene*)

Summary

Willie Green was the youngest son of a Bristol metal craftsman. He joined as an apprentice to Mr. Guttenberg the photographer at the age of fourteen. He was a very successful photographer and won the favour of his clients. He used to read about photography in his spare time.

During his apprenticeship he came in contact with Helena Friese, a beautiful girl from Switzerland. They fell in love and married in 1874. He had a quarrel with Mr. Gultenbery and began to serve a lady owner with a photographic studios with in short time he was running to studios. He continued to do experiments and one of his friends Fox Talbot advised him to go to London to invent something new for the world.

His another friend John Arthur Roebuck Rudge once invited him to see a 'Biophantic Lantern.' He had prepared a new instrument with seven 'still' pictures of a man doing some result. He showed it on the wall in motion. William Friese--Greene came to know that it was based on the fact that our eyes are slow and still photographs projected in succession give movement to them. He decided to have experiments in company of Mr. Rudge.

William Friese—Greene made an improved machine and exhibited it to his friends with motion pictures. Then he left for London in 1885 and joined his to brother as partners. Two studios were opened there

and he developed another material for photography which was not accepted by experts. So he decided to appeal to the general public. At his Piccadilly studio he projected the moving figure of a dancing skelton with a white screen. It attracted people but soon he was compelled by law to stop it so that traffic hinderace not occur..

He brought his family to London and operated his new camera with a roll of sensitized paper. Even it could not be much successful and he turned celluloid films. He took moving pictures of Mr. Carter and his son of handoom cabs and promenading ladies and gentlemrn. He developed the film and was so much over joyed with his success that he shared it with a policeman on duty.

But he was of cash and had to pay heavy cost as a result of lawsuit. Again he went into partner ship with a picture postcard company and had to go to prison. Anyhow he was saved by his wife. William Friese Greene also approached Edison but with no results. Jaurnals reported of his invention and he was hailed as a geniuse at the Photographic convention in chester. Then he thought over the dream of Movement colour, Depth and Sound which could not be fulfilled.

In fact, he was bit careless. He had received the patent for his invention in 1889. He sold it for 500. Then, he invented a method of printing pictures at great speed and approached Sir George, the magazine king for printing illustrated magazine. Sir George offered money for the scheme but he showed negligence in matter. Meanwhile Helena fell ill and die in 1895.

William Friese Greene worked again and invented X—ray machine whose demonstration was given at a public show. It proved a great help for surgeon. Then he turned towards inventing the inkless printing. But he fell in love with Miss Edith Harrison and married her in 1897. Later on, he joined a company as director but it failed and again came to the financial crisis. He was declared bankrupt and was put behind bars.

Anyhow, he was again free. There was some blackmail in America over the question of using a camera or projector. William Friese Greene was invited there for six months and recognized as the inventor of cinematography. Once again honours came to him but England did not take interest in cinematic inventions. After first world war a meeting was held in May 1921 to discuss the problem of film industry. William Friese—Greene delvered an emotioned moving speech and collapsed there forever. The inventor was dead.

पाठ का हिन्दी सारांश

विली ग्रीन ब्रिस्टल एक धातु शिल्पकार का सबसे छोटा पुत्र था। उसने चौदह वर्ष की आयु में श्री गटेनवर्ग नामक एक फोटोग्राफर के सहायक के रूप में कार्य प्रारम्भ किया। वह अत्यन्त सफल फोटोग्राफर सिद्ध हुआ और शीघ्र ही अपने ग्राहकों के मध्य प्रसिद्ध हो गया। वह अपने शेष समय में फोटोग्राफरों (छाया चित्रकारों) के बारे में अध्ययन किया करता था।

अपने सहायक कार्य (शिशिक्षु) में वह स्विटजरलैन्ड की एक सुन्दरी हेलन फ्राईज के सम्पर्क में आया। दोनों एक दूसरे से प्रेम करने लगे और १८७४ में विवाह सूत्र में बंध गये। उसका श्री गटेनवर्ग से कुछ झगड़ा हो गया और वह छाया चित्र सम्बन्धी एक स्टूडियो

की स्वामिनी की सेवा करने लगा। शीघ्र ही उसने अपना कार्य बढ़ा लिया और दो नये स्टूडियो चलाने लगा। वह अपने प्रयोग निरन्तर करता रहा। एक बार उसके एक मित्र फोबस टेलवट ने उसे लन्दन जाकर कोई आविष्कार कर डालने की राय दी।

उसके एक दूसरे मित्र जॉन आर्थर रोबक रज ने उसे एक विशेष प्रकार का दीप दिखाने के हेतु आमंत्रित किया उसने एक नवीन यन्त्र की सहायता से कलाबाजी करते हुये एक व्यक्ति को गतिपूर्ण अवस्था में दिखाया। विलियम फ्रीईज ग्रीन को ज्ञान हुआ कि यह यन्त्र केवल इस आधार पर कार्य करता था कि मानव नेत्र धीमे कार्य करते हैं और यदि 'शान्त चित्रों को श्रंखला में एक के बाद एक प्रदर्शित किया जाये तो उसमें गति आ जाती है। उसने श्री रज के साथ प्रयोग करने का निश्चय किया।

उसने एक सुधारे हुये यन्त्र का निर्माण किया और अपने मित्रों को गतिमय चित्र दिखाये। फिर १८८५ में वह लन्दन चला गया और अपने दो भाइयों के साथ हिस्सेदार बनकर कार्य करने लगा। वहां पर दो स्टूडियो खोले गये। उसने छवि चित्रों के लिये एक दूसरा पदार्थ तैयार किया पर विशेषज्ञों ने उसे स्वीकार नहीं किया। अतः फ्रीईज ग्रीन ने साधारण जनता को आकर्षित करने का निश्चय किया। फलस्वरूप उसने एक सफेद पर्दे पर एक नाचते हुये अस्थिपंजर प्रदर्शन करके पिकाडिली पार्क के पथों पर जन समुदाय को आकर्षित करना प्रारम्भ किया परन्तु शीघ्र ही सरकारी अधिकारियों ने इसे समाप्त करवा दिया।

फ्रीईज—ग्रीन अपने परि को लन्दन ले आया और अपने नये कैमरे को ह्पित पत्र की एक गोल से चालित किया। लेकिन यह भी कोई विशेष सफल नहीं रहा और वह काष्ठकपूर (केलूलायड) चित्रपट्टी बनाने में लग गया। उसने श्री कारटन और उनके पुत्र सुन्दर किराये की गाड़ियों तथा आनन्द हेतु जाते हुये पुरुष तथा स्त्रियों के गतिमय

चित्र लिये। उसने फिल्म को साफ करके चित्र बनाये और अपनी सफलता पर इतना प्रसन्न हुआ कि दौड़ कर कर्तव्य पर लगे हुये सिपाही को अपने साथ स्टूडियों में खींच लाया।

लेकिन अब उसके पास धन-राशि न थी और मुकद्दमा चलने पर उसे भारी राशि दन्ड स्वरूप देनी पड़ी। पोस्टकार्ड बनाने वाली एक कम्पनी से उसने फिर हिस्सा रखा और इस सम्बन्ध में कारावास करना पड़ा। किसी प्रकार उसकी पत्नी ने धन एकत्रित करके उसे बचा लिया और अपने संरक्षण में उसे कार्य दिया। विलियम फ्रीईज ग्रीन ने अमेरिका के एडिसन से भी सम्बन्ध स्थापित किया पर कोई परिणाम न निकला। पत्र पत्रिकाओं ने उसके आविष्कार की चर्चा की और चेस्टर की छायाचित्र सभा में उसे अपूर्व बुद्धि वाला बताया गया। फिर वह गति, रंग गहराई तथा ध्वनि के स्वप्न में लग गया जो पूर्ण न हो सका।

वास्तव में कुछ लापरवाह था। उसने १८८९ में अपने आविष्कार का विशिष्ट अधिकार पत्र उपलब्ध किया था। उसने इसे पांच सौ पौन्ड में बेच दिया जो कि समय पर धन राशि न पहुँचने पर चार वर्ष उपरान्त समाप्त हो गया। फिर उसने तीव्र गति से चित्र मुद्रित करने की विधि निकाली। वह पत्रिका के श्री जार्ज के पास चित्र द्वारा वर्णित पत्रिका निकालने के सम्बन्ध में गया। जार्ज ने धन देकर उसे प्रयोग करने के लिये प्रोत्साहित किया परन्तु उसने कार्य की अवहेलना की जिससे वह रुष्ठ हो गये। इसी मध्य हेलन बीमार पड़ी और मृत्यु को प्राप्त हुई।

विलियम फ्रीईज ग्रीन फिर कार्य में जुट गये और क्षरश्मि (एक्सरे) यन्त्र खोज निकाला जिसका उन्होंने सामूहिक प्रदर्शन किया। इससे चिकित्सकों को महान सहायता मिली फिर उसका ध्यान स्याही रहित मुद्रण पर पड़ा। लेकिन इसी मध्य वह कुमारी एडिथ हेरिसन के प्रेम पाश में पड़ गये और १८९७ में उससे विवाह कर लिया। बाद में

उन्होंने एक कम्पनी में निर्देशक का स्थान ग्रहण किया तथा हिस्सा लिया पर यह असफल रही और उन पर आर्थिक कठिनाइयाँ आ पड़ीं। उन्हें दिवालिया घोषित कर दिया गया तथा वन्दी गृह में डाल दिया गया।

किसी प्रकार वह पुनः स्वतन्त्र हुये। उन दिनों अमेरिका में कुछ संघ (प्रन्यास) कैमरा तथा प्रक्षेक पर अनुचित धन राशि प्राप्त कर रहे थे। फ्रीईज ग्रीन को उसी सम्बन्ध में छः महीनों के लिये बुलाया गया और उन्हें चल चित्र का आविष्कर्ता के रूप में सम्मानित किया गया। एक बार फिर उनकी प्रतिष्ठा बढ़ी पर इग्लैन्ड ने चल-चित्र सम्बन्धी आविष्कारों में कोई रुचि न दिखाई। प्रथम महायुद्ध के उपरान्त १९२१ के मई माह में फ़िल्म व्यवसाय की समस्याओं को सुलझाने हेतु एक सभा हुई। विलियम फ्रीईज ग्रीन ने वहां एक हृदय-स्पर्शी भाषण दिया और उसके तुरन्त बाद ही मृत्यु लोक सिधार गये। इस विलक्षण रूप से तथा जीवन की बाधाओं से टकराते हुये महान चलचित्रण के आविष्कर्ता की जीवन लीला समाप्त हुई।

The Man with The Magic Box

Page 50

Word Meanings:—Photographer—फोटोग्राफर—one who takes photo through camera—छाया चित्रकार। Apprentic—एप्रेंटिस—novice, helper—शिक्षु, चेला। Pioneer—पायनियर—explorer—मार्ग दर्शक। Commercial—कोमर्सियल—related to business—व्यापार सम्बन्धी। Fascinating—फेसि-नेटिंग—charming - मनोरंजक, मुग्धकारी। Profession—प्रोफेसन—job—कार्य। Enormous—इनोरमस—great—महान। Prospect—प्रोस्पेक्ट—chances for progress—उन्नति के सुअवसर। Portraits—प्रोट्रेटस—likeness of living man—छवि आलेख्य। Exclusive—एक्सक्लूसिव—special—विशेष। Copies—प्रतियां। Craftsman—क्राफ्टस्मैन—Artist in metal—शिल्पकार। Tri-cks—ट्रिक्स—points—चाल।

Page 51

Word Meanings:—Clients—क्लाइन्टस—customers—ग्राहक। Pompous—पोम्पस—showy—आडम्बर पूर्ण। Intimidating—इन्टिमिडेटिंग—Frightening—डराने वाला। Boss—बोस—master—स्वामी। Imaginary—काल्पनिक। Intriguing—इन्ट्रीगुइंग—making plots—षडयन्त्रकारी। Frustrations—फ्रस्ट्रेसंस—निराशायें। Desperately—डेस्पेरेटली—nervously—हताश रूप से। Diorama entertainer—डयूओरम इन्टरटेनर—one who entertains by exhibiting pictures in the wall of dark chamber—अन्धेरे कमरे की दीवार पर चित्रों को दिखाकर मनोरंजन करने वाला। Collaborated—को लाबोरेटेड—worked together with—साथ में कार्य किया। Mercury vapour—मरकरी वेपर—gaseous substance of mercury—पारा का वाष्प (भाप)। Scarnfully—स्कार्नफुली—disdainfully—उपेक्षा पूर्वक। Positive—पोजीटिव—धनात्मक। Negative—निगेटिव—a photographic plate in which the shade and light of an object is reversed—फोटो उतारने की पट्टी जिस पर उलटा चित्र छपता है ऋणात्मक।

Mr. Guttenberg, photographer......your business.

Pages 52–53

The Girl from Switzerland

Page 52

Word Meanings:—Colleague—कोलीग—fellow—साथी। Asthma—अस्थमा—a disease of lungs accompanied with cough and difficult breathing—श्वांस रोग। Bride—ब्राइड—दुल्हन। Holds—होल्डस—grasp—पहुँच। Visual balance—विजुअल बेलॅंस—balance in view—दृष्टि का संतुलन। Symmetrical—सिमेट्रीकल—similar—एक से। Exceptionally—एक्सेप्सनली—special—विशेष रूप से।

Page 53

Word Meanings:—Gratifying—ग्रेटीफाइंग—satisfying—संतुष्टि देने वाला। Astronomical—एस्ट्रोनोमिकल—pe t-

aining to astronomy—खगोल विद्या सम्बन्धी। Technical—टेक्नीकल—some particular knowledge—विशेष ज्ञान। Microcosm—माक्रोकोज्म—miniature repre sentation of man or universe—संसार या मनुष्य का सूक्ष्म दर्शन। Cue—क्यू—hint—संकेत। Contraption—कन्ट्रेप्सन—contrivance, invention—आविष्कार।

Pages 54–56

Our eyes are slow...........of cinematography.

Page 54

Word Meanings:—White washed—व्हाइटवाश्ड—सफेद पुती हुई। Magic lantern—मेजिक लेन्टर्न—an optical apparatus throwing magnified image of glass picture on the screen—चित्र-दीप। Clown—क्लाउन—rustic—मसखरा। Somersault—समरसाल्ट—a leap in which a person turns heels over head in the air—कलैया। Exaggerating—एग्जागरेटिंग—overstating—अतिशयोक्ति कर रहे हो। Lighthouse—लाईटहाऊस—प्रकाश स्तम्भ। Gallery—गैलरी—चित्रशाला। Rotated—रोटेटड—took round—चक्कर लगाया। Magnifid—मेगनीफाइड—increased in size—विशालित।

Page 55

Word Meanings:—Fraction—फ्रेक्सन—part—भाग। Blend—ब्लेन्ड—mix—मिलना। Photographic फोटोग्राफिक—related to photograph—छायाचित्र सम्बन्धी। Galloping—गेलोपिंग running with leaps—सरपट दौड़ते हुए। Discs—डिस्क्स—plates—तश्तरियां। Cinematography—सिनेमाटोग्राफी—art of motion pictures—चलचित्रण।

Pages 56–59

The young photographer......forgot aboiet it.

Page 56

Word Meanings:—Excellent—एक्सेलेन्ट—great—महान। Craftsman—क्राफ्टसमैन—शिल्पकार। Manual—मेनुअल—

related to hands—हस्त कार्य। Shutter—शटर—something which checks—अवरोध। Frown—फ्राउन—displeasure—त्योरी। Landscapes—लैण्ड स्केप्स—scenes—दृश्य। Comic—कोमिक—having fun—हास्यप्रद। Audience—आडियेंस—on-lookers—दर्शक।

Page 57

Word Meanings:—Animated—एनिमेटेड—made to iive—जीवित। Jabbed—जेब्ड—poked roughly—रुक्षता से भोंक दिया। Scared—स्केयर्ड—frightened—डर गई। Foot-hold—फुटहोल्ड—place to keep foot—पैर रखने हेतु स्थान।

Page 58

Word Meanings:—Inferior—इन्फीरीयर—lower in rank—हीन। Universal—यूनीवर्सल—everywhere—सर्वत्र। Admiration—एडमिरेसन—praise—प्रशंसा। Physicist—फिजिस्ट—student of physics—भौतिकीविज्ञ। Chemist—केमिस्ट—रसायज्ञ। Mechanics मैकेनिक्स—the science of machinery—यन्त्र विद्या। Basement—बेसमेंट—lowest part of the building—घर का सबसे नीचे का भाग। Projectors—प्रोजेक्टर्स—प्रक्षेपी यन्त्र। Demonstrate—डैमोन्स्ट्रेट—exhibit, show—प्रदर्शन हेतु। Discarded—डिस्कारडेड—dismissed—हटा दिया। Fragil—फ्रेजाइल—perishable—भंगुर। Gelatine—जेलटाइन—a kind of substance—सरेस। Sensitized—सेन्सिटाईज्ड—made sent-ive—हर्षित। Emulsion—इमलसन—a milky liquid with oily particles suspended in it—तेल युक्त श्वेत तरल पदार्थ। Transparent—ट्रान्सपारेन्ट—transmitting rays of light thro-ugh something—पारदर्शक। Socked—सोक्ड—drenched—तर किया हुआ। Grimacing—ग्रिमेसिंग—an affected expression of face—मुख-विरूपिता।

Page 59

Word Meanings:—Skelton—स्कैल्टन—the bonny framework of the body—अस्थिपंजर। Giggled—गिगल्ड—laughed like silly persons—मूर्खों की भांति हंसना। Prosecu-

tion—प्रोसेक्यूसन—the act of legal proceeding—अभियोग। Obstruction—ओब्सट्रक्शन—hindervance—बाधा। Vanished वैनिस्ड—disappear—अदृश्य हो गया।

Pages 59—62

Business in his..................................in January 1889.

Page 59

Word Meanings:—Considerably—कन्सीडरेबली—greatly—अधिकता से। Rented—रेन्टेड—hised—किराये पर ली। Mechanic—मेकेनिक—one who makes instruments—यन्त्र शास्त्री। Sensitized—सेंसिटाईज्ड—made sensitive—फोटो का कागज प्रकाशग्राही बनाना, हर्षित।

Page 60

Word Meanings:—Sprockets—स्प्रोक्ट्स—teeth of the wheel on the links of which a chain moves—पहिये के दांत। Punch-holes—पंच होल्स—छिद्रित। Emulsion—a substance—(प्रतिलम्ब)—एक प्रकार का मिश्रण। Stumbled upon—स्टम्बल्ड अपोन—lurched upon, fell upon—कठोर खाई। Flexible—फ्लेक्सीबल—Easily bent—लचीला। Strips स्ट्रिप्स—pieces—टुकड़े। Nitrocellulose—नाइट्रोसेलूयाज़—Nitre containing cell—सूक्ष्म छिद्र, सहित शोरा (भूय कोशाधु)। Camphor—कामफर—a white substance with aromatic smell—कर्पूर। Celluloid—सेलूलायड—an artificial substance like ivory—कचकड़ा काष्ठकर्पूर। Opaque—ओपक—not transmitting light—अपार दर्शक। Panes—पेंस—sheets of glass—कांच की पट्टी। Inconspicuous—इन्कन्स्पीकुअंस—scarecely discernible—अप्रत्यक्ष। Tripod—ट्रिपाड—stool—तिपाई।

Page 61

Word Meanings:—Hanson—हनसुन—a light two wheeled cab—एक हल्की दो पहियों की बग्घी। Promenading—प्रोमेनेडिंग—walking for pleasure—आनन्द के लिए घूमना।

Strolling—स्ट्रोलिंग—wandering—इधर उधर घूमते हुए। Deliberately—डेलीबरेटली—knowingly—जान बूझ कर। Rinsed—रिन्स्ड—waded with water—जल से धो दिया। Miracle—मिरेकल—wonder—अद्भुत घटना।

Page 62

Word Meanings:—Re-wound—रिवान्ड—To wind again—फिर से भेरी (पुन: लपेटा)। Spool—स्पूल—a reel for winding photographic film—फोटो उतारने के फिल्म की गडारी। Bobby—बोबी—policeman—सिपाही। Baton—बेटन—Staff—छड़ी।

Pages 63—64

Dear Sir..to go to perison.

Page 63

Word Meanings—Frowned—फ्राउन्ड—showed unpleasure—त्यौरी चढ़ा ली। Temporarily—टेम्पोरेरिली—for some, time—कुछ समय के लिए। Confident—कान्फीडेन्ट—sure of—निश्चित। Inevitable—इन्वीटेबिल—necessary—आवश्यक।

Page 64

Word Meanings:—Partnership—पार्टनरशिप—साझा Machinations—मेसीनेसन्स—the act of scheming—कूट-प्रबंध। Bankruptly—बेंकरप्टली—unable to pay one's debt—दीवालियापन। Entanglements—इन्टेन्गलमेण्टस—involved in Complexities—उलझनें।

Pages 64—67

While he was in..............................remaineda dream.

Page 64

Word Meanings :—Acquaintance—एक्यन्टेन्स—known persons—परिचितों। Was released—was left

free—स्वतन्त्र हो गया। Relinquished—रेलिंक्यूस्ड—gave up —त्याग दिया। Alarmingly—अलर्मिंगली—Exciting fear—भय प्रद।

Page 65

Word Meanings:—Reproduction—रिप्रोडक्शन—the act of producing again—पुनर्जन्म (पुनः उत्पन्न करना) Maze–मेज–network—भूलभूलैया। Enthusiastic–इन्थूलिआस्टिक —encouraging—उत्साह वर्धक। Accomplished—अकम्पलिस्ड—established—माना हुआ। Stationary—स्टेशनरी—fixed—स्थिर।

Page 66

Word Meanings:—Converted—कन्वरटेड—changed—परिवर्तित कर दी जाती है। Transparencies—ट्रांसपेरेन्सीज —Transmitting light—पारदर्शी। Construction—कनसट्रक्शन make—बनावट। Conjuction—कन्जक्सन—relation—सम्बन्ध। Feted—फेटेड—entertained at a feast—दावत दी गई। Genius—जीनियस—अपूर्व बुद्धि वाला। Reconaissance—रिकानिसैंस —military examination of a track—किसी भाग की सैनिक परीक्षा।

Page 67

Word Meanings:—Alteration—अलट्रेमन—change —परिवर्तन। Physicist—student of physics—भौतिकीविज्ञ। Depth—डेप्थ—गहराई। Stereoscopic—स्टीरिओस्कोपिक—an instument for vision—दुरबीन—(त्रिविम)। Simultaneously—साइमलटेनिअसली—happening to gether—साथ साथ होना। Phonograph—फोनोग्राफ—an instrument for automatically records and reproducing sound—ध्वनिलिख। Synchronize—सिन्क्रानाईज—To cause to agree in time—संकालन के समकाल होना।

Pages 67–71

That lack of concentration...........of friends.

Page 67

Word Meanings:—Concentration—कन्सेन्ट्रेसन—the act of coming to a definit point—एकाग्रचित्त। Despite—डेस्पाइट—inspite of—के होते हुए भी। Cinematography—सिनेमाटोग्राफी—the art of making motion pictures—चलचित्रण।

Page 68

Word Meanings:—Besieged—बिसीज्ड—attacked—आक्रमण किया। Amazing—अमेजिंग—strange—विचित्र। Illustrations—इलस्ट्रेसन्स—pictures designed to explain—चित्र द्वारा व्याख्या। Premises—प्रमिसेज—building with some area—क्षेत्र सहित इमारत। Apologetic—अपोलोजेटिक—begging to be excused क्षमा प्रार्थी। Optimism—ओप्टीमिज्म—a hopeful view of things—आशावाद।

Page 69

Word Meanings:—Black-despair—ब्लैक डेस्पेअर—great disappointment—महान निराशा। Consolation—कन्सोलेसन—patience—धैर्य। Penetrate—पेनेट्रेट—pierce into—छेदना। Fluorescent—फ्लूरोसेन्ट—having the property of fluorescence—प्राशमान (एक विशेष प्रकार के नीले दिखाई पड़ने वाले रजतपट)। X-rays—एक्सरेज—the name given by Rontegen of wurzburg in 1859 to those dark, or invisible rays emitted, under the inflence of an electric current, from a glassbulb highly exhausted air through an aluminium window into imprint a shadow picture of the bones on a sensitive photographical plate—वर्जबर्ग के रोनजन द्वारा १८९५ में एक अदृश्य किरणों को दिया गया नाम जोकि विद्युत धारा के प्रभाव से बन्द बक्स में अलमूनियम की खिड़की द्वारा वायु समाप्त शीशे के बल्बों से जब मानव के किसी भाग से निकलती तो हर्षित छाया पत्र पर हड्डियों का छाया चित्र अंकित करती थी, (क्षरश्मि)। Bias—बायस—prejudice—पक्षपात। Stripped—स्ट्रिप्ड—mad naked—नंगा करती थी। Matinees—मेटनीज—afternoon performances—तीसरे पहर के प्रदर्शन। Splinter

—स्पलिंटर—small fragment split of—छोटा सा टूटा हुआ टुकड़ा।

Page 70

Word Meanings :—Efficiency—इफीसियेन्सी—ability—योग्यता। Impressions—इम्प्रेसन्स—effects—प्रभाव। Souvenirs—सेवनियर्स—keepsakes—स्मारक पदार्थ। Gloves—दस्ताने (हस्तप)। Radiant—रेडियेन्ट—Beaming with joy—प्रफुल्लित। Carnation—कारनेसन। Rory-pink colour—लोहित रंग। Counter—काउन्‍ र—फलक।

Pages 71—74

The idea of inkless......................growing up fast.

Page 71

Word Meanings:—Scare—स्केयर। fear—भय। Monopolized—मोनोपालाईज्ड—obtained monopoly of—सर्व अधिकार रखना। International—अन्तर्राष्ट्रीय। Cruises—क्रूसेज—vogages—समुद्री यात्रा। Parties पार्टीज—Social gatherings—सामाजिक सभा। Fun arcades—फन आर्क्रेडस—great building with entertaing objects—मनोरंजन से पूर्ण महराब।

Page 72

Word Meanings:—Theatrograph—थ्येट्रोग्राफ—रंगमंच। Shooting—शूटिंग—to shoot the scenes—फिल्माना। Workmanship—वर्कमैनशिप—कर्मकोशल। Boulevard—बूलेवरड—a broad walk bordered with tre s—वृक्षों के किनारे घूमना। Cafe—केफ—restaurant—जलपान गृह। Glimps—गिलम्पस झांकी। Metropolis—capital—राजधानी। Surf—सर्फ—wave between the rocks and the shore—चट्टानों तथा किनारों के मध्य की लहरें। Urchin—अरचिन—child—बच्चा। Panicked—पेनिक्ड—expressed terror—भय प्रदर्शित किया। Fainted—फेन्टेड—became uncousrions—मूर्छित हो गई। Performance—परफोरमेंस—show—प्रदर्शन। Ventured—वेन्टर्ड—daren—साहस किया होता।

Page 73

Word Meanings :— Fraction—फ्रैक्सन—part—भाग। Money-lenders—मनी लेन्डर्स—creditors—ऋण दाता। Undischarged—अन्डिस्चार्ज्ड - released—मुक्त हुआ। Auctioneer—अक्सीनियर—नीलाम-कर्त्ता। Unprecedented—अप्रेसेडेन्टेड —without any example—पहले कभी नहीं, अपूर्व।

Pages 74–78

In prison Fries Green............The Magice Box.

Page 74

Word Meanings:—Resolved—रिजोल्वड—decided—निश्चित किया। Collisions—कोलीजन्स—accidents—दुर्घटनायें। Extorting—एक्सटोर्टिंग—charging forcibly—जबर्दस्ती ले रहा था। Priority—प्रायोरिटी—Precedence—प्राथम्य। Bailiffis—an officer under a sheriff—सहकारी अमीन।

Page 75

Word Meanings:—Thugs – थगस—ruffians—ठग, उचक्के। Triumph – ट्रम्फ—victory—विजय। Precarious—प्रकेरिअस—uncertain—अनिश्चित।

Page 76

Word Meanings:—Nickelodeon—निक्लोडियोन—प्रक्षेप। Adversaries—एडवरसरीज—troubles—कठिनाइयां। Accusations—एक्यूजेसन्स—crimes—अभियोग। Persecuted—पर्सेक्यूटेड—worried—पीड़ा दी। Propositions—प्रोपोजीसन्स—schemre—प्रस्तावना। Crank—क्रेन्क—accentric—झक्की।

Page 77

Word Meanings:—Faction—फेक्सन—part—भाग। Rostrum—रास्ट्रम—plateform for public speaking—व्याख्यान देने का चबूतरा। Incoherently—इन्कोहेरेन्टली—in an in consistent manner—वे मेल की। Slumped—स्लम्पड—collapsed—गिर पड़ा। Magniflcent—मेगनीफिसेन्ट – great—महान। Funeral—फ्यूनरल—Burial ceremony—अन्तिम क्रिया।

Tymbstone—टोम्बस्टोन—समाधि शिला। Impressive—इम्प्रेसिव—effecting the mind—हृदयंगम।

Page 78

Word Meanings:—Prophecy—प्रोफेसी—prediction भविष्यवाणी।

Questions and Answers

Q. 1. How did William Friese-Greene prove himself as an apprentice to Mr. Guttenberg, the photographer ?

फ्रीज-ग्रीन ने स्वयं को छाया-चित्रकार श्री गटनबर्ग के शिशिक्षु (नवसिखिया) के रूप में कैसा सिद्ध किया ?

Ans.

William Friese Greene joined the photographer Mr. Guttenberg as his apprentice at the age of fourteen. He was deeply interested in Physics and Chemistry at school and so he decided to take photographic career for himself. No doubt he was a successful photographer.

Friese-Gieene learnt all the tricks which are employed in this trade. His photos were widely appreciated and customers generally liked to have his personal touch in them. Mr. Guttenberg was jealous of him as he could not produce photographs with that skill which war a peculiarity of William Friese-Green.

Though, William was a good photographer but he was not a good apprentice. Often his boss was displeased with him as he passed most of his time in reading about new inventions related to photography. He continued on this job for five years and then left as a result of the quarrel with his master.

Q. 2. How did Willie Green become William Friese Greene ?

विलो ग्रीन किस प्रकार विलियम फ्रीज ग्रीन बन गया ?

Ans.:—

Willie Green had a friend named, Josty. His widowed mother had married a Swiss Baron. Josty had a step-sister who had recently by come from Switzerland. Her name was Helena Friese. She was a beautiful girl of twenty-one but she was a patient of asthma.

One day Willie Greene went with friend Josty to his house. He was introduced with Helena Friese and both began to love each other intensely. They were married in 1874 when Willie was 19 years old and his bride was 22 years old, three years old to him.

Willie Greene loved his wife very much. He was so much in love with her that he decided to change his name bringing a visual balance with his own name. It also included the name of his beloved Helena Friese. So he changed his name as William Friese Greene.

Q. 3. What part did John Arthur Roebuck Rudge play in Friese Green's life ?

जान आर्थर रोयबक रज ने फ्रीज-ग्रीन के जीवन में क्या भाग लिया ?

Ans.:—

John Arthur Roebuck Rudge was the inventor of several new things. He had also made certain experiments regarding photographic development. Once, he made a Biophantic Lantern' and invented William Friese Greene to have a look of it in his workshop. When he visited him Mr. Rudge showed a magic

lantern picture on the wall. The figure began to more and the clown made a somersault. William Friese-Greene was much impressed with this show.

Mr. Rudge explained his new instrument to him. It was a lighthouse with a gallery all round having seven slides of pictures. When the gallery moved round, the light passing through slides resulted in giving movement to the figure on the white washed wall. The whole theory was based on the fact that our eyes are slow to percieve and the sudden replacement of lantern slides plays a trick with us.

William Friese Greene took a keen interest in his instrument. He asked Mr. Rudge to carry certain experiments with him which he accepted quite agreeably. Thus, his new career began with him. He made an improved Machine and exhibited it to his friends and neighbours. It was a great success. William Friese-Greene got a fatherly friend and teacher in Mr. Rudge. He decided his life on the right path and showed him a way to great success.

Q. 4. Why did William Friese Greene go to London and what was the purpose behind the dancing skelton ?

विलियम फ्रीज-ग्रीन लन्दन क्यों गया और नाचते हुये अस्थिपंजर के पीछे क्या उद्देश्य था ?

Ans.

William Friese Greene was working in a studio in Bath when he picked up the friendship with Fox Talbot who had invented the method to make positive from negative plates. Fox Talbot was a keen photographer and rightly judged the great promise in Friese Greene.

He asked him to go to London to study new inventions and instruments. At the age of thirty, Friese-Greene left to London in early 188 .

He became a partner with two brothers Arthur and Esme collins and started a photographic studio in New Bond 'Street.' He won the universal admiration for his photographs. Then they opened a second studio with a large workshop behind it in Piceadilly Park.

Here he developed his cameras and projectors for moving pictures and succeed to invent a new sensitized paper for his prints. He exhibited his new material instead of glass but experts in trade did not approve his invention. William Friese Greene decided to approach the general public. So he projected the moving figure of a dancing skelton in night as the window of his Piceadilly studio. It remained a great sensation in the capital but soon is was checked by police authorities.

Q. 5. How did William Friese-Greene find the new material for motion pictures ?

विलियम फ्रीज ग्रीन ने चलचित्रों के हेतु कैसे नया पदार्थ प्राप्त किया ?

Ans. :—

William Friese Greene found a sensitized paper instead of using glass plates. But even it could not take more than seven or light pictures in a second. So he continued his search to find a more suitable material for his camera.

Meanwhile he came across with a stuff invented by a scientist, Alexander Parks. Originally it was tough and flexible material but he saw all the possibilities to cut it into thin and transparents strips. It was known

as 'Celluloid' being the mixture of nitrocellulose and camphor.

He started his preparation in Holborn laboratory and was successful to design it according to his own needs. Then he built a camera for its use and shot scenes of market and of his cousin Mr. Carter with his little son walking towards him. He approached the laboratory with great anxicusness.

He began to develop the film and soon the dim figures were Visible on it. William Friese Greene was going to win the day. He continued the projected it and found every detail on the screen. It was a great moment in his life. William Friese Greene was successful to find most suitable material for motion pictures.

Q. 6 What was the finacial position of William Friese-Greene when he invented the magic box ?

जब विलियम फ्रीज ग्रीन ने जादू के वक्स का ग्राविष्कार किया था उसकी ग्राथिक दशा कैसी थी ?

Ans. :—

William Friese-Greene was not a successful mechanic. He had to depend on instrument makers for his cameras and projectors. Even a bit of alteration in the system costed a lot of money to him.

At the time, when he invented the magic box, his financial position had become quite critical. He had built his new camera from a firm and could not pay the amount as he was short in cash. Besides it, he had neglected studio work which resulted in the collapse of his financial stability. He had opened so many studios in Soudon that he could not keep

a watch on them and his partners and managers played tricks with him.

As a result, trouble began in 1888 when the electric company filed a lawsuit against him and had to pay heavy cost. Soon after that he became Partner in a picture postcard company which failed soon and he had to go to prison due to his inability to pay the debt. Anyhow his wife Helena Friese collected the required sum of money and he was set free from the priset house. As such, his financial position was very critical at the time he made the invention of cinematography.

Q. 7. What did happen to the patent of his inventon ?

उसके विशिष्ट अधिकार पत्र के साथ क्या घटना हुई ?

Ans:—

William Friese-Greene invented the new camera and projector in 1889 and applied for the patent which was granted to him in May 1890. He was not a mechanic himself and had to pay large sum for getting prepared his cameras. Besides it he could not stick to a work for a long time. As soon as a new idea entered he would leave the one in hand and it would bring no solid gain to him.

No-doudt, his patent proved the saddest thing in his life. He was quite hopeful to get fame and money through his great invention which basically included all the principles of cenematography. But, he was out of cash and wanted to get money to pay to his creditors who were now after him.

So he took the documents related to the patent to a firm of merchants and sold it to them at

500. He accepted the cash gledly and it offered a temporary relief to him. Unfortunately, merchants did not made use of it and was locked in their safe. They did not care to pay rhe renewal fee after four years and the patent relapsed. It was really the great tragedy in the life of William Friese Greens that inspite of his great invention and the word master motion picture patent, he could not be recognised so till long.

Q. 8. When did he invent the x-ray machins and with what results ?

उसने क्षरश्मि यन्त्र को आविष्कृत किया और क्या परिणाम रहे ?

Ans:—

William Friese-Greene loved his wife Helena Friese much. But she could not bear the borden of runing the family and fell ill. She died in 1895 at the age of 43.

It was a great shock to Friese-Greene. He began to find consolation in hard work. He had read about the myslerois rays by Professor Routgen that could penetrate matter and show the in side of things. He worked hard to invent a machine which could produce x-rays at the touch of a button. He was successful in his attempt and got a patent for his latest invention in 1896.

He persuaded medical persons to use it for examining their patients but they bitterly opposed his idea and called them 'Indecent' rays. Then a business man asked him to exhilit his machine to the public. It bore favourable results. A retired admiral had continuous pain in his wrist and it was found that a spinter was

still inside though the bullet was taken out. On another occasian, the machine helped a leading surgeon to frace a wandering needle in the foot of a girl. This set the ball rolling and \ illiam Friese-Greene made a good fortune out of his x-rays machine.

Q. 9. What was the mystery behind eighteen pairs of gloves ?

अट्ठारह जोड़े दस्तानों (हस्तक्षेप) के पीछे क्या रहस्य था ?

Ans:—

After inventing the x-ray machine. William Friese-Greene directed his efforts to invent inkless printing. While he was doing his experiments in the laboratory, he surprised his assistants by playing eighteen pairs of gloves in a drawer. They could not guess the mystery behind it and though their master to be a marsmurderer. Perhaps he was a mad person.

But in fact William Friese-Greene was going with a romance. He had come in contact of a beautiful girl who was serving as a shop assistant at the glove counter in a department store. WIlliam fell in love with her but could not express it for a long time. Anyhow, he continu:d to buy gloves still he could dare enough to say to Edith of his feelings. Even she was love with him They were engaged and were married early in 1897.

When the whole love affair was known to the assistants, they could find the truth behind eighteen pairs of gloves. One day he introduced Miss. Edith Harrison, his wife, to them and the whole mystery was dissolved.

Q. 10. How did the glory of Dovercourt came to an end ?

Or

What had been the out came of his idea of inkless printing ?

डोवरकोर्ट का वैभव किस प्रकार समाप्त हुआ ?

या

स्याही सहित मुद्रण के उसके विचार का क्या परिणाम रहा था ?

Ans :—

William Friese-Greene was busy with the idea of inkless printing. It seemed a big business and a company was formed with international financial interests. He received a large sum to start the work and got shares and a director's pay in the company. He began to enjoy the life in his new home in Dovercourt.

William Friese-Greene did not take keen interest in this enterprise and again devoted his time in his colour system. As a result of it the inkless printing company began to fail. The business people did not show much interest in it. He could not get the promised salary and shares.

Mean while, his creditors asked him to pay the cash. He was living in groud style on credit. He failed to save his position and was summoned the court by Mr. Bethell. His things were auctioned and the glory of Dovercourt came to an end. Once again he was a declared-bankcripts.

Q. 11. How was William Friese-Greene recognised as the inventor of cinematography in America ?

अमेरिका में विलियम फ्रीज ग्रीन की चल चित्रण के आविष्कर्त्ता के रूप में कैसे मान्यता हुई ?

Ans:—

The invention of cinematography was becoming a popular form of entertainment in the world. Several

countries were contesting to get the honour of being inventor of it. Mean while in America, a 'Trust' was formed by a number film companies. They have bought Edison's patents and were forcibly taking frees from all using a camera or projector.

Some independent producers did not like to be blackmailed in this manner. They formed a small group under the leadership of Carle Laemmle. They refused to pay any money and the case was taken to the court. They had to prove that Friese-Green's patent was older than Edison's. It was the only ground for their victory.

As such, the editor of the 'Moving Picture News' in New-York sent a letter to William Friese-Greene to come to America to testify about his patent of 1889. He accepted the invitation and remained in America for six months. The court decided the case in his favour and William Friese-Greene was recognised as the inventor of cinematography. His patent of 1889 had all the basic principles of it and was declared to be the world master—motion picture patent. It was a great victory for him and was honoured throughout the world as the inventor of cinematography.

Q. 12. How did William Friese-Greene meet his death ?

विलियम फ्रीज-ग्रीन की मृत्यु कैसे हुई ?

Ans:—

William Friese-Greene was recognised as the inventor of cinematography in America. But he did not receive the same honour in his own country. People considered him an ordinary bankcrupt photographer.

Mean while the First world war started and people took the least interest in the cinematic inventions. British film trade came to a stand still and Hollywood films dominated the market. Even William Friese-Greene could not–make a successful way for himself. He felt disappionted and lost all hopes for success.

Anyhow, a big meeting of the film industry was held in May 1921 in London. Great discussions and speeches took place and Lord Beaver-brook explained his views on the matter. When the atmosphere was quite hot William Friese Greene now an old man, got up to speak. He was called to the platform by the chairman where he spoke with great emotions. He was so much excited that he begen to cry and was taken back to his seat. No sooner, he reached there he collapsed. William Friese Greene was dead and the film industry gave a grand funeral to him. The father of cinematography. William Friese-Greene met his death browely after hard struggles in life.

Lesson 4

THE MAN WHO MASTERED SPACE AND TIME

(*Guglielmo Marconi*)

Summary

Signor Giuseppe Marconi, the father of Guglielmo Marconi, was a rich Italian landowner. He used to live in Bologna Guglielmo Marconi was a sensitive Youngman with a keen power to concentrate on a single idea. He was a student of physics and conducted his experiments in Villa Griffone a lovely country seat of his family.

He often used to remain shut in his atticrooms which his father did not like. Any how his mother was an affectionate lady and provided all facilities to her son. Once, when other members had retired to Bologna, Marconi and his mother remained in the country seat to continue experiments. He was successful to make a bell ring without wires. It was the first beginning of the wireless signals to be transmitted and received.

Guglielmo Marconi always received a ready help from his brothers too. His messages were being received at the distances of more than a mile by the end of 189 . He employed different discoveries which were made by different scientists all over the world. Even his father was surprised on his success and offered all the help to him.

Marconi left for London in February 1896 at the age of 22 with wireless equipment. He goes the first patent for wireless telegraphy on 2nd June 1896. His introduction with Mr. William Preece, the Engineer–in chief of the general Post office proved very useful to him. He asked Marconi to give a demonstration of his invention which was highly appreciated. Then he was invited by Army and Navy forces to see the utility of it in war.

Marconi installed a wireless transmitter in his friend's home. He picked up friendship with Mr. kemp, an engineer which lasted for thirty-five years. Guglielmo Marconi started experiments to find how the signals would arrive across water. A company was soon formed to provide money to him. He found that signals could be sent to any distance. He also intro-

duced tuning in the apparatus. Stations were established and ships were equipped with the wireless sets.

Once the Prince of wales was injured and Queen Victoria maintained a wireless communication with him in his yacht osborne. Marconi was introduced with them. Later on, in March 1889, the life and property were saved through its use. Now, his invention was getting world-wide recognition. Marconi built a station near Wimereux to attack the British channel and was successful in his attempt. Then, he turned to bridge Atlantic and paid a visit to America. Mr. kemp also accompanied him to Newfoundland. Poldhu was found to be the most suitable place for his purpose. Signals were heard at proper time and the world was thrilled to receive the news.

The merchant vessels and passenger ships were equipped with the wireless apparatus. Marconi met Mr. Graham Bell and Thomas Alva Edison in America. The wireless telegraphy became a very important part in several fields of human activity. Guglielmo Marconi was awarded the Nobel Prize for physics in November 1909. That very Fear, the 800 crew and 900 passangers were saved from the sinking ship Republic. Then Dr. Crippen and his friend Ethel Le Neve, murderers in a case were caught with its help by Scotland Yard. After that the Titaine disaster followed on 14 April 1921 and 705 persons were saved as a result of the wireless telegraphy.

But suddenly his luck changed. His great success resulted in bitter group which hated and ewied him. He lost his one eye in car accident. Out of disappointments, Marconi left England for Italy. He joined

the Italian Army and after war became a del gate to the Paris Peace conference. His Tacht 'Elettra' was equipped as his floating home and laboratory. Here he experimented the radio telephony and gave a reality to broadcasting. He married twice–once in 1905 with Hon. Beatrice 'O' Brien and then with an Italian comutess in 1927. In fact, Guglielmo Marconi had fulfilled his all dreams and had won all struggles. The inventor of wireless telegraphy gave a wonderful thing to the world which proved to be the most important invention of the modern age.

Pages 79—81

One autumn evening.........he feared most.

Word Meanings:—Landowner—लैन्डओनर—Zamidar—भूस्वामी, जमींदार। Attic—एटिक—the room in the highest story of the house—अटारी। Knitting—निटिंग—जाली का कार्य। Flared up—फ्लेर्ड अप—excited with anger—क्रोध के आवेश में आए। Precious—प्रसस—valuable—मूल्यवान। Stingy—स्टिंगी—meanly covetous—लोभी।

Page 80

Word Meanings:—Technician—टेक्नीसियन—expert in certain science—विशेषज्ञ। Sanity—सिनिटी—proper state of mind—विवेक। Genius—जीनियस—man of great wisdom—अपूर्व बुद्धि वाला। Eielded—ईल्डेड—agreed—मान गया। Dreaded—ड्रेडेड—feared—डरता रहा। Astonishing—ऐस्टोनिशिंग—wonderful—विचित्र। Concentrate—कन्सन्ट्रेट—to fix firmly—पूर्णरूप से लगा देना। Mockery—मोकरी—making fun of—मजाक उड़ाया जाना।

Page 81

Word Meanings:—Shyness—शाइनैस—timidity—लज्जाशीलता। Adverse—एडवर्स—opposite—विरोधी। Solitude—सोलीटयूड—lonliness—एकान्त। Prompted—प्रोम्टेड—instigated—उकसाया गया था।

Pages 81–84

The family were.....................going to sleep ?

Word Meanings :—Assembled—असेम्बल्ड—gathered—एकत्रित हो गई। Dining-room—भोजन करने का कमरा। Ordeal—ओरडियल—test—परीक्षा। Sandviches—सेन्डविचेल—thin sliees of bread—डबल रोटी के टुकड़े। Oscillator—ओसिलेटर—a machine that produces oscillation—स्फुरण यन्त्र-दोलक। Profess—प्रोफेस—admit—स्वीकार करना। Propagation—प्रोपेगेसन—transmission—संचारण।

Page 82

Word Meanings :—Physicists—फिजिस्टस—students of physics—भौतिकी जानने वाले। Electromagnetic—इलैक्ट्रो-मेगनेटिक—related to the electric magnet—विद्युत-चुम्बक सम्बन्धी। Waves—वेव्ज—तरंगें। Vibrations—विबरेशन्स—shivering—कम्पन। Medium—माध्यम। Fantastic—फेन्टास्टिक—odd—विचित्र। Conductor—कन्डक्टर—one who manages—चालक। Detector—डिटेक्टर—one that finds—परिचायक। Contraptions—कन्ट्रेप्सन्स—inventions—आविष्कार। Hertzian wave—हरजियन वेव—waves discovered by Herts—हर्टस—तरंग।

Page 83

Word Meanings :—Radiation—रेडियेसन—diffusion of rays of light—विकिरण। Developed—डेवेलप्ड—increased—परिस्फुट किया। Space—स्पेस—sky—आकाश। Elementary - एलामेंटरी—rudimentary simple—प्रारम्भिक। Incredible—इन्क्रेडिबल—that cannot be believed—अविश्वस्त। Fantasy—फेंटसी—imagination, when—कल्पना। Admonish-एडमोनिश—to reprove mildly—झिड़कना।

Page 84

Word Meanings :—Engrossed—इन्ग्रोस्ड—lyst—खोया हुआ। Gadgets—गेडगेस्ट—instruments—यन्त्र। Tinkling—टिंकिलंग—a climking sound—टन् टन् क शब्द करना। Nodded—नोडेड—moved head—सिर हिलाया।

Pages 85-88

It was many years..........at the villa Griffone.

Page 85

Word Meanings :—Wireless—वायरलैस—without wire—बिना-तार के, वितन्तु। Transmitted-ट्रांसमीटेड—communicated संचारित किया (भेजा गया)। Tinkling—टिंक्लिंग—clinking sound—टन टन का शब्द। Fore runner—फोर रनर—messenger—हरकारा, अगुआ। Wireless Telegraphy—वायरलैस टेलेग्राफी—वेतार प्रणाली। Television—टेलेवीजन—the vision of a distant object on a screen by means of an electrical apparatus - विद्युत यंत्र द्वारा दूर के पदार्थों का चित्र रजतपट पर देखना। (दुरवीक्षण)। Radar—रडर—the technique of ascertaining the relative position in space of a reflecting object—किसी प्रतिबिंबित वस्तु की आकाश में आपेक्षिक स्थिति को निश्चित करने वाला (रडर)। Revolutionized—रेवोलूस्नाईज्ड—made great change—क्रांति करदी है। Willingly—विलिंगली—with own wish—स्वेच्छा से। Handymen—हैन्डीमैन—persons to help—सहायता देने वाले मनुष्य। Avenue—एवेन्यू—wide street—चौड़ी सड़क। Chestnut—चेस्टनट—अखरोट।

Page 86

Word Meanings :—Executing—एग्जेक्यूटिंग—performing—कर रहा था। Groped—ग्रोप्ड searched—behindly—अन्धों की भांति खोज डाला। Aerial—एरियल—विद्युत ग्राहक। Reception—रिसप्सन—the act to receive—संग्रहण (ग्रहण करने की शक्ति)। Enormously—इनोरमसली—greatly—अत्यधिक। Receiver—रिसीवर—संग्राही (प्राप्त करने वाला यन्त्र)। Sensitive—सेन्सीटिव-quick to the touch—सुग्राही (शीघ्र ग्रहण करने वाला)। Coherer—कोहेरर—winted—संयुक्त। Capsule—केप्सूल—a thin sheath—पतली थैली। Carbon—कारबन्। Granules—ग्रेन्यूलस—grains—दाने। Filings—फाइलिंग्स-pointed wires—नुकीले तार।

Page 87

Word Meanings :—Formidable—फोरमिडेबल—unsurmountable, difficult —कठिन। Obstacles—ओब्सटकिल्स—बाधायें। Conjuring—कन्जूरिंग—magical trick—जादू की चाल। Dispersed—डिस्पर्स्ड—removed—दूर की गई। Metropolis—मेट्रोपोलिस—capital—राजधानी। Receptacles—रिसेप्टेक्लस—those which contain things—रखने के पात्र। Paraphernalia पाराफरनेलिया—personal belongings—निजी वस्तुयें। Customs officers—कस्टमस ओफीसरस—चुंगी अधिकारी। Gear—गियर—equipment—उपकरण (यंत्र आदि वस्तुयें)। Acquintances—अकुयन्टेन्सेज—known persons—परिचित व्यक्ति।

Page 88

Word Meanings :—Facility—फैसिलिटी—provision—सुविधा। Demonstration—डिमोन्सट्रेशन—exhibition—प्रदर्शन।

Pages 88-92

In later fears......................of use to him.

Page 88

Word Meanings :—Transmitter—ट्रान्समीटर—instrument to communicate the signals—संकेत भेजने वाला यन्त्र (प्रेषित)। Gear—गियर—equipment—यन्त्र। Reversible—रिवर्सीबल—able to be reversed—परिवर्तनीय। Reception—रिसेप्सन—act to receive—संग्रहण। Vice versa—वाइस वर्सा—opposite—उल्टा। Representatives—रिप्रेजेन्टेटिव्ज—प्रतिनिधि। Rack—रेक—to stretch joints—खींचना।

Page 89

Word Meanings :—Primitive—प्रिमिटिव—old—पुराना। Distinguished—डिस्टन्गुस्ड—selected—विशिष्ट। Switch—स्वीच—an appliance for connecting or disconnecting electrical current—विद्युत की धारा प्रचलित करने या रोकने का साधन। Mirth—मर्थ—laughter—हास्य। Pretenti-

ous—प्रेटेन्टिग्रस—full of pretention—छली, अभिमानी। Tapping—टेपिंग—अंकित कर रहा था। Incredible—इन्क्रेडिबल—great—महान, तीव्र।

Page 90

Word Meanings:—Panting—पेंन्टिग—taking frequent breath—हांफते हुये। Observes—ओब्जर्वस—spectator—प्रेक्षक।

Page 91

Word Meanings:—Evident—एवीडेन्ट—clear—स्पष्ट। Severing—सीवियरिंग—making hard—तोड़ना। Incorporated—इनकोरपोरेटेड—formed—बनाई गई। Sceptical—स्केप्टीकल—doubting—संशयात्मक, सन्देहपूर्ण। Concert—कन्सर्ट—musical entertainment—संगीत।

Page 92

Word Meanings :—Commercial—कोमर्सिअल—related to business—व्यापार सम्बन्धी। Tuning—ट्यूनिंग—समस्वरण (ताज मिलाना)। Tuned—ट्यून्ड—put to time—सम स्वरित (लय पर लगाया)। Fundamental—फन्डामेन्टल—essential—प्रमुख। Isolated—आइसोलेटेड—lonely—एकान्त। Light houses लाइटहाउसेज—towers with light to show direction to ships in ocean—प्रकाश स्तम्भ। Regatta—रिगाटा—boat race—नौका दौड़। Tug—टग—ship for towing vessel—खींचने वाली नौका। Yachts—याट—a vessel—आंखों का देखा हाल वर्णन करना।

Pages 93—96

The man in the street......................your end.

Page 93

Word Meanings :—Devilish—डेविलिश—evil—खराब, बुरा। Barel—organ a kind of music instruments—एक प्रकार का बाजा (अरगल बाजा)। Convincing—कन्विन्सिंग—making believe—विश्वास दिलाना। Technically—minded—

प्रावैधिक मस्तिष्क वाले। Entourage—अन्दुरज—followers—साथी। Masts—मास्ट्स—long poles—मस्तूल। Equerry—एकूअरी—the officer who is in charge of horces अश्वपाल। Sovereign—सोवरन—queen—महारानी। Impatiently—इम्पेसेन्टली—in an intolerant manner—अधीरता से। Furnished—फर्निस्ड—supplied—पूर्ति की।

Page 94

Word Meanings :—Communication—कमुनकेशन—correspondence—बातचीत। Congratulated—कोन्ग्रेचुलेटेड—offered best wishes—बधाइयां दीं। Stranded—स्ट्रेन्डेड—without resources—असहाय। Negoteations—नेगोसियेसन्स—transactions of business—व्यापार सम्बन्धी बातचीत।

Page 95

Word Meanings:—Mechanic—मैकेनिक—one who makes instruments—यन्त्र बनाने वाला। Handyman—हैंडीमैन—one who helps—सहायता देने वाला। Characteristic—करेक्टरिस्टिक—quality—गुण। Loyalty—लोयलटी—devotion—भक्त। Not with standing—नोटविदस्टेनडिंग—in spite of—होते हुये भी। Coil—कायल—circled wire—कुन्डली। Drenched—ड्रेंच्ड—wet—भीग गए।

Page 96

Word Meanings : Nonplused—नानप्लस्ड—confused—गुमसुम था, (भौंचक्का था)। Unreliable—अन्रिलायबल—not to be believed—अविश्वासनीय।

Pages 96–99

Early in 1900............required his attention.

Page 96

Word Meanings :—Demonstrated—डेमोन्सट्रेटेड—exhibited—प्रदर्शित किया था। Anxious—एन्क्सस—desirous—इच्छुक। Rigged—रिग्ड—furnished with rigs—रस्सों से सुसज्जित। Nautical—नोटिकल—naval—समुद्री। Menu-printing—मैनू प्रिंटिंग—किराए का मुद्रण यन्त्र।

Page 97

Word Meanings :—Enthusiastically—इन्थूजियास्टीकली—with great zeal—प्रति अनुराग से। Recollections —रिक्लेसन्स—memory यादगार। Obviously—ओब्वियस्ली—clearly स्पष्ट रूप से। Subsidiary—सबसीडियरी—secondary दूसरी। Skilled—स्किल्ड—perfect—कुशल। Mighty—माइटी—powerful—महान (शक्तिशाली)। Transmitter-ट्रांसमीटर-प्रेषी। (सम्वाद भेजने का यन्त्र)। Cosmic—कोस्मिक—of the universe—जगत सम्बन्धी (आंतरित)। Balloons-बलून्स-गुब्बारे। Kites—काईट्स—पतंगें। Violent gale—व्योलेन्ट गेल—mighty storm—प्रचन्ड तूफान।

Page 98

Word Meanings :—Curvature—करवेचर—a curved form—वक्रता (घुमाव)। Lashing—लैशिंग—striking violently—तीव्रता से प्रहार करना। Whisky—व्हिस्की—a kind of wine—शराब। Earphone कान में लगाने वाले फोन। Wavelength—वेवलेन्थ—तरंग, दैर्घ्य। Pandemonium—पैन्डेमोनियम—confusion—कोलाहल। Rattling—रैटलिंग—roaring गड़गड़ाहट का स्वर। Howling—हाऊलिंग—making great—अति शोर करती हुई। Infernal—इन्फरनल—friendish, dreadful—भयानक, राक्षसी। Electro-magnetic—इलैक्ट्रो मेगनेटिक—having electric magnet—विद्युत-चुम्बक सहित। Scarf—स्कार्फ—necktie—गुलुबन्द। Cocoa—कोको—नारियल। Cheese—चीज—food made of pressed curds—पनीर।

Page 99

Word Meanings :—Magnificient—मेग्नीफिसेन्ट—majestic, great—शानदार, महान। Indignation इन्डिगनेशन—anger—क्रोध। Abondon—अबन्डन—stop—रोकना। Triumphal—victorious—विजयपूर्ण।

Pages 100–103

The first British merchant.........three dots.

Page 100

Word Meanings :—Vessel—वेसेल—ship—जहाज। Cruiser—क्रूजर—warship—युद्धपोत । Conduct—कन्डक्ट—perform—करना । Long-range—लोंग-रेंज—having long distance—दीर्घ सूत्री, दूर तक जाने वाली । Hostility—होस्टीलिटी—enemity—शत्रुता । Preferred—प्रीफर्ड - liked—पसंद किया। Superior—सुपीरियर—better in quality—उत्तम । Communicate—कोमुनीकेट—to exchange messages—संदेश लेना। Oblivious—ओब्लीवियस—ignorant—अपरिचित ।

Page 101

Word Meanings : —Ventured—वेन्चर्ड – took courage—साहस किया । Stupid—स्टूपिड – foolish—मूर्खतापूर्ण । Larder—लारडर—a room for storing meet—मांस रखने का कमरा । Culinary—क्यूलीनरी—pertaining to kitchen—खाना सम्बन्धी । Explorer—एक्सप्लोरर—अन्वेषण (खोज) करने वाला ।

Page 102

Word Meanings :—Nailed—नेल्ड-fastened—ठीक दिये गये । Tentatively—टेन्टेटिवली—experimentally—योग रूप से । Wireless—Telephony—वायरलैस टेलीफोनी – बेतार टेलीफोन। Overshadowed—ओवरशेडोड—covered all—सब ढक लिया। Disaster—डिसास्टर—tragedy—दुखद घटना । Dramatically—ड्रामेटिकली – in a sudden manner is in drama—नाटकीय ढंग से । Collided—कोलाईडेड—got struck with—टकरा गई । Rescue—रेस्क्यू—ships to save—बचाने वाली नौकायें । Crew क्रू – sailors—नाविक । Seafaring—सीफेयरिंग—travelling by sea—समुद्र द्वारा यात्रा करने वाले । Subsided—सब्साईडेड—supressed—दबा ।

Page 103

Word Meanings :—Overhauled—ओवरहोल्ड—left back—पिछाड़ दिया । Gauging—गेजिंग—measuring exactly—ठीक ठीक मापना । Abbreviation - एब्रेवियेशन—short form—संक्षिप्त रूप । Babel – बेबल—confusion—कोलाहल ।

Pages 104-106

On the night of......... ....Italian got through.

Page 104

Word Meanings :— Maiden—मेडेन—first—प्रथम। Voyage—वायज—travelling by—समुन्द्री यात्रा। Ice-berg—आईसबर्ग—a large mass of floating ice—बर्फ का बहता हुआ पहाड़। Giant—जियान्ट—great, big—बड़ी। Strapped—स्ट्रेप्ड—teed—बांध दिया। Scramble—स्क्रेम्बल—struggle—झगड़ा। Abandon—अबन्डन—leave—त्यागना। Life—belt—जीवन-रक्षक। Aft—आफ्ट—near the stern of a ship—जहाज के पिछले भाग के समीप।

Page 105

Word Meanings:—Survivors—सरवाइवर्स—those lived alive after other's death—जीवित रहने वाले। Compulsory-कम्पलसरी। necessary—मुख्य। Merchantile—मरचेंन्टाइल—related to trade—व्यापार सम्बन्धी। Telephonic—टेलेफोनिक related—to telephone—टेलीफोन सम्बन्धित। Grievous—ग्रीव्स-banious, severe—शोचनीय, दुखपूर्ण। Inflicted—एन्फिलक्टेड—made upon—डाले गये। Entangled—एन्टेन्गल्ड—grasped-फंस गई। Intrigues इन्ट्रीग्स—conspiracies—षड़यन्त्र। Embittered—इम्बिटर्ड—became bitter—कड़ुआ हो गया। Unswerving—अन्स्वेरविंग—determind—अटल।

Page 106

Word Meanings:—Grievance—ग्रीवेन्स—cause of grief—दुख का कारण। Allied—अलाईड—united, friendly—मित्र। Shabbiest—शेबियेस्ट—most old—सबसे भद्दे। Conceal-कन्सील—to hide—छिपाना। Indentity—आईडेन्टिटी—introduction—परिचय। Transpired—ट्रांसपायर्ड—came to be known—जानने को मिला। Anonymous—अनोनिमस—unknown—अज्ञात।

Pages 106—108

In the modest capacity......electromagnetic waves.

Page 106

Word Meanings:—Fore-runner—फोर रनर—beginning—प्रारम्भ। Radar—the technique of ascertaining the relative position in space of a reflecting object—रडर। Delegate—डेलीगेट—member—सदस्य। Itched—इच्ड—wished kindly—बहुत चाहा।

Page 107

Word Meanings:—Navigation—नेवीगेशन—the art of navigate—जहाज रानी। Broadcasting—ब्राडकास्टिंग—प्रसारण। Scarcely—स्केयर्सली—hardly—कठिनता से। Miraculus—मिरेकुलस—wonderfull—विचित्र। Anchoring—एन्करिंग—staying by putting anchor—लंगर डाले हुए। Transmissions—ट्रान्समिसन्स—संचरण। Television—टेलीविजन—the vision of a distant object on a screen by means of an electrical apparatus—बिजली के द्वारा दूर के पदार्थों का चित्र पर्दे पर देखना (दूरवीक्षण)। Electro-magnetic waves—विद्युति चुम्बक तरंगें। Research worker—रिसर्च वर्कर—those who search new things—अन्वेषक। Tremendous—ट्रेमेंडस—great—महान। Conjure—कनजोर—to act by magical influence—मन्त्रवश करना, जादू का सा प्रभाव डालने वाला। Warm heartedness—वार्म हर्टेडनैस—great affection—अति अनुरागी।

Page 108

Word Meanings:—Caution—कासन—care—सावधानी। Subtlety—सबटलटी—refinement—चतुराई, अति सूक्ष्मता। Christened—क्रारचेन्ड—named—नाम रखा गया। Reproached—रिप्रोच्ड—rebuked—तिरस्कार किया। Facist—फाशिस्ट—a political party opposed to socialism—समाज के विरुद्ध एक दल। Dictator—डिक्टेटर—तानाशाही। Indication—इन्डीकेशन—sign—चिन्ह। Unavoidable—अनअवोडेबल—which could not be neglected—जिसको डाला न जा सके। Ushered—अशर्ड—introduced—परिचय हुआ। Criss-crossing—क्रिस-क्रोसिंग—making cross discetions—आर पार होना। Electric magnetic waves—इलैक्ट्रिक मेगनेटिक वेव्ज—विद्युति चुम्बक तरंगें।

Questions & Answers

Q. 1. Why was Guglielmo Marconi asked to attend the dinner with the rest of family member at Villa Griffone ?

विला ग्रिफोन में परिवार के शेष सदस्यों के साथ भोजन करने हेतु गलियमो मारकोनी से क्यों कहा गया था ?

Answer: —

Guglielmo Marconi was a shy young student of 20 years. He had recently returned from his holidays in the mountains. He had entertained certain new ideas and was almost locked up in his two attic rooms. His father Signor Guiseppe Marconi did not like his manners. He wanted him to behave as a normal young student.

Signora Annie his mother, was a kind lady. She had a better understanding of Marconi's nature. That they, Guiseppe Marconi asked her to explain what Guglielmo Marconi used to do in his rooms. She told him that he wanted to send signals and voices from one place to the other through the air without using wires. Any how, it was settled to ask Marconi to take his dinner with the rest family members that evening.

The sensitive young boy joined them and finished his meals silently. Then, his father asked him to tell what he wanted to do with the hundred lire had received from him in the morning. Guglielmo Marconi explained his requirements and told him about the whole plan he had in mind. Though his father doubted his wisdom yet he encourage him to carry on his experiments.

Q. 2. What was the first success of Guglielmo Marconi ?

गलियमो मारकोनी की प्रथम सफलता क्या थी ?

Ans:—

Guglielmo Marconi had conceived the idea of sending the signals from one place to another with the help of Hertzian waves. He believed that those waves could be utiliyed to carry the signals across space to far off distances.

He continued his experiments at the villa Griffone. During the winter in 1894, all the family except his mother left for Bologna but he remained there to carry on his experiments. He was totally absorbed in giving a practical shape to his idea.

One night, Guglielmo Marconi asked his mother to wake up to see the first step of his success. In fact, Marconi had succeeded to ring a bell in the corner of the other room without wires. It was the first wireless signal which was transmitted and received successfully. The tinking bell through the wireless was the first success of Guglielmo Marconi. It assured him of his forth coming great invention and of his right course.

Q. 3. How did Guglielmo Marconi succeed in inventing the wireless system ?

बेतार प्रणाली का आविष्कार करने में गलियमो मारकोनी कैसे सफल हुआ ?

Ans:—

Guglielmo Marconi was a hard worker. He had aimed to invent something to send the electric signals and voices through electromagnetic waves. The Hertzian waves had proved that his idea was sure to get a practical shape.

On the same ground, Marconi did several experiments at his Villa Griffone. He had also got the idea of getting powerful reception through the areial. He had already succeeded to ring the bell without wires. As such his present care was to make a powerful transmitter and receiver which could get the signals at great distances.

Marconi passed nights and days to solve this problem. He was waky to get the full ready cooperation from his brothers and other members of the family. In 1895, the distance of receiving the signals was some what more than a mill. But soon it increased to two miles in 1896 and even hill could not hinder the way of these waves. At last, the invention of the wireless was complete. Guglielmo Marconi left for London and got the world's first patent of wireless telegraphy on 2 June 1896.

Q. 4. How did Guglielmo Marconi receive an invitation from G. P. O. to demonstrate his invention ?

गलियमो मारकोनी ने किस प्रकार प्रधान पोस्ट आफिस (डाकखाना) द्वारा अपने आविष्कार का प्रदर्शन करने हेतु निमंत्रण प्राप्त किया ?

Ans.:—

Guglielmo Marconi left for London at the age of 22 in 1896. He stayed in a London boarding house and waited to make a push of his valuable invention. Meanwhile he was introduced with the Engineer in-chief of the General Post Office, Mr. William Preece. He showed a great interest in his equipment and promised to do his best for him.

One day, Marconi received a letter from him to demonstrate his wireless system to a selected gathering invited by the G. P. O. Soon, the arrangements were made and the shy Italian Marçoni was introduced to the distinguished assembly. No-doubt, he was feeling nervous but Mr. Preece encouraged him to win the day.

Anyhow, Marconi gave a successful demonstration and people asked several questions about this new invention. It was the first great success of Guglielmo Marconi. The G. P. O. had given a lucky chance to him to bring his invention forward in the world.

Q. '. How did Guglielmo Marconi and James Stevens Kemp became great friends in life ?

किस प्रकार गलियमो मारकोनी तथा जेम्स स्टीवेन्स कैम्प जीवन में घनिष्ठ मित्र बन गये ?

Answer:—

Guglielmo Marconi had invented wireless telegraphy. He gave demonstrations to G. P. O. engineers. Then, he was invited by the Army and Navy officers. On his return, he was asked by a friend to install a wireless transmitter in his house which he accepted gladly.

Marconi began to arrange the thing. While he was fixing the areial on the roof of the house some one called him from the street. He asked him what he was doing on the top. Marconi told him to come up to help him. Without losing a single minute, the young man reached the roof. He did his work so nicely that Marconi sought his introduction. He was James Stevens Kemp, G. P. O. engineer. Then Marconi introduced himself to Kemp and the friendship started.

The time passed and both of them became great friends. Kemp was appointed the official G. P. O. assistant to Marconi. Then he went with the inventor to Newfoundland to bridge the Atlantic. They remained bosom friends till 1932 when Mr. Kemp left for his eternal abode.

Q. 6. What great commercial possibilities were felt for the new invention of wireless telegraphy ?

बेतार प्रणाली के नवीन आविष्कार के लिये क्या व्यवसायिक सम्भावनायें प्रतीत हुईं ?

Or

What was the scope for the wireless telegraphy in the commercial field ?

व्यवसायिक क्षेत्र में बेतार-प्रणाली का क्या अवसर था ?

Ans. :—

Guglielmo Marconi was the father of wireless telegraphy. He invented it at the early age of twenty two and got its patent on 2 June 1896. Demonstrations were given at different places and people realized that the invention of wireless had a great future. Soon a group of engineers and business men approached him to form a company. As such 'The Wireless Telegraph & Signal Company Limited came into existance on 20 July 1896.

The wireless s stem promised the great future in the life of commercial world. Stations were erected at several places and Marconi gave a running commentary of the kingstown Regatta for the newspaper 'Dublin Express.' The importance of the invention was realized for the first tune even by a layman. Then, soon, another opportunity came. Queen Victoria employed it

to keep a direct contact with his son, the Prince of Wales whose knee was injured and was compelled to remain on board. Several neval accidents were revert-ed and life and property was saved on many occasion by calling distress signals.

At the time passed, people left the great importance of the wireless system. Distance became a matter of minutes & wireless communication was established in every part of the Globe. Besides its use in navigation, it became the most popular means of recreation. Happenings on one part of the glove were know to the rest of the world within seconds. Time and space be-come one with it and commerce achieved a new life with the invention of wireless system.

Q. 7. Why was Gulielmo Marconi employed by Queen Victoria ?

गलियमो मारकोनी को सम्राज्ञी विक्टोरिया ने क्यों नौकरी दी थी ?

Answer:—

Queen Victoria had heard something ab ut the invention of Marconi. She had also seen the high masts during her drives. Once, her son, the Prince of Wales injured his knee. He was not in position to leave his yacht 'Orborne' for sometime. Queen Victoria was quite anxious to know everything about him. Some one suggested the name of Marconi and to employ him to establish the wireless communication between the place and the yacht.

Guglielmo Marconi had already been successful in sending the running commentary of the kingstown Regatta and he had no difficulty to establish the wire-

less communication. Queen Victoria and her exchanged 153 messages within a week. Prince took a keen interest in Marconi and his apparatus. Even Queen Victoria congratulated him for his great invention.

Q. 8. How did Guglielmo Marconi bridge the mighty Atlantic with his wireless apparatus ?

गलियमो मारकोनी ने अपने बेतार यन्त्र द्वारा विशाल अटलांटिक को किस प्रकार पार किया ?

Ans:—

The great achievement of Guglielmo Marconi was recognised all over the world. Channel had been covered by him on 28 March 1889. Another company 'The Marconi International Marconi Communication Co. Ltd.' was also formed in 1900.

Now, Marconi paid his attention to connect two continents by bridging the mighty Atlantic. It was one of the most anxious time in his life. Great scientists had opposed his views. Marconi believed that the wireless waves move round the surface of the world and are not hindered by rough weather.

Anyhow, he was determined to have the experiment. He found a suitable spot at Poldhu in a lonely part of cornwall. Kemp accompained him to Newfoundland where a transmitter was being erected at Sh. John's. As the time of receiving the signals from Poldhu approached, the weather became very coarse. A mighty storm was having outside the transmitter hut. Icy rain was beating against the faces of people who were watching the high kites supporting aerials.

The time for signals came near. A man placed the earphone on his head and was alert to trace the faint

signals coming from a distance of 2170 miles across the mighty Atlantic. Nearly at 12·30 p. m. the man received three clicks the agreed signal from Poldhu. Marconi and kemp heard them by turns. The great success was with him. The news of bridging the Atlantic by Guglielmo Marconi brought a new sensation to the world.

Q. 9. How did Marconi win the loyality of great Edison ?

मारकोनी ने महान एडिसन की भक्ति कैसे प्राप्त की ?

Ans :—

The invention of Guglielmo Marconi had become quite popular in the world. Marconi wanted to bring certain improvements in his system. He wanted to get the suggestions of great Edison of America who was one of the leading inventors of his age.

Soon, Marconi got an opportunity to meet him in his workshop at Orange, New Jersey U. S. A. Both of them exchanged their views about improving the Marconi's wireless system. Edison was so much absorbed in talts that he did not sake Marconi about his meals. At last, Marconi could not hide his hunger and spoke to him about it.

Edison felt himself in a very embraced position. It was Sunday and everyone had gone out. Anyhow both of them searched the larder and found some bread and cheese to satisfy Marconi's hunger. Though this little culinary adventure had no great importance at that moment but it proved a great source of bringing the two great inventive brains to come more near to each other Marconi had won a sincere loyality of great Edison with his simple and frank dealings.

Q. 10. How was the great value of wireless recognised in different fields of human activity ?

मानवीय क्रिया के विभिन्न क्षेत्रों में वेतार प्रणाली के महान मूल्य को मान्यता कैसे प्राप्त हुई ?

Ans.—

Guglielmo Marconi had invented the wireless system in 1896. Since the several incidents happened which proved the great value of the wireless in different activities of human life.

Marconi had successfully given the running commentary about the Kingstown Regatta for the 'Dublin Express.' He was also employed by the Queen Victoria to keep her in contact with her son, the Prince of Wales who was forced to stay on board due to his puce injury. The wircless telegraphy was the only medium of communication between them.

Again, in 1909, the American explorer Commander Peary informed of his successful adventure to reach the North Pole through the wirelessmessage. That every year, 800 crew and 900 passengers were saved when the 'Republic' ship had coleided with the Italian steamer 'Floride.'

Besides, these different fields of human activity where the Marconi's wireless system had proved its great value, a new possibility was exibited. Dr. Crippen and his friend, suspected as murders in a case, sailed disguised as Mr. Robinson and Son.' Anyhow, the master of the ship expressed his doubt to the Scotland yard through a wireless massage. The result was that the chief Inspector of Scotland Yard reached camade earlier to arrest them. As such, these different incidents should

the great value of the wireless system in different fields of human activity. It proved to be the quickest and most reliable medium of communication forever.

Q. 11. How did the growing fame of Guglielmo Marconi affect his personal life in later years ?

गलियमो की बढ़ती हुई ख्याति ने बाद के वर्षों में उसके व्यक्तिगत जीवन पर कैसा प्रभाव डाला ?

Ans. :—

Guglielmo Marconi, the inventor of the wireless system, was known all over the world due to his great invention. The wireless telegraphy had become every-day reality and the name of Marconi had gamed a wide popularity throughout the globe. Two famous wireless companies were formed with his name. He had also succeeded to establish wireless contact with aeroplanes in flight.

All these bright successes brought a great name to Marconi. His growing fame gave rise to many persons who hated and envied him of his success. Meanwhile he lost his one eye in a car accident. Then his company was badly trapped in political and economic intrigues. Marconi was much pained to find himself among enemies on all sides.

So he decided to return to Italy for the rest of his life. The First World War gave an opportunity to him and he became the chief incharge of the military wireless service in Italian Army. After the war was over. Marconi was deputed as a delegate to the Paris Peace Conference. But he was not interested in politics and left the job soon. He passed the rest of his personal life in carrying on the experiments on his Tacht Elettra

which had become his floating home. Though his growing fame had given birth to his opponents and critics yet the world famous inventor Guglielmo Marconi managed to pass his later life in perfect peace and happiness.

Q. 12. What do you know about the great qualities of Guglielmo Marconi as a man of action ?

Or

Give a short character-sketch of Guglielmo Marconi, the inventor of Wireless Telegraphy.

कार्यशील व्यक्ति के रूप में गलियमो मारकोनी के महान गुणों के बारे में तुम क्या जानते हो ?

या

बेतार तार प्रणाली के आविष्कर्त्ता गलियमो मारकोनी का संक्षिप्त जीवन-परिचय दो।

Ans.:—

Guglielmo Marconi, the inventor of wireless Telegraphy, was the younger son of a rich Italian landowner. Marconi was a sensitive young man with a great ability to concentrate his efforts on a single idea. He was shy of nature and greatly feared the adverse criticism.

During the holidays on mountains, Guglielmo Marconi had conceived the idea of sending the electric signal without wires. He started his work with from determination and full confidence. Though his idea looked foolish to his father but in himself Marconi as sure of his great success.

Marconi had a great ability to secure the cooperation from his companions and workers. Even when he was doing experiments at Villa Griffone, he easily got

the ready help of his brothers and labourers. It was greatest quality of his approaching success. Marconi invented the wireless telegraphy in 1896 and got its plant on 2 June.

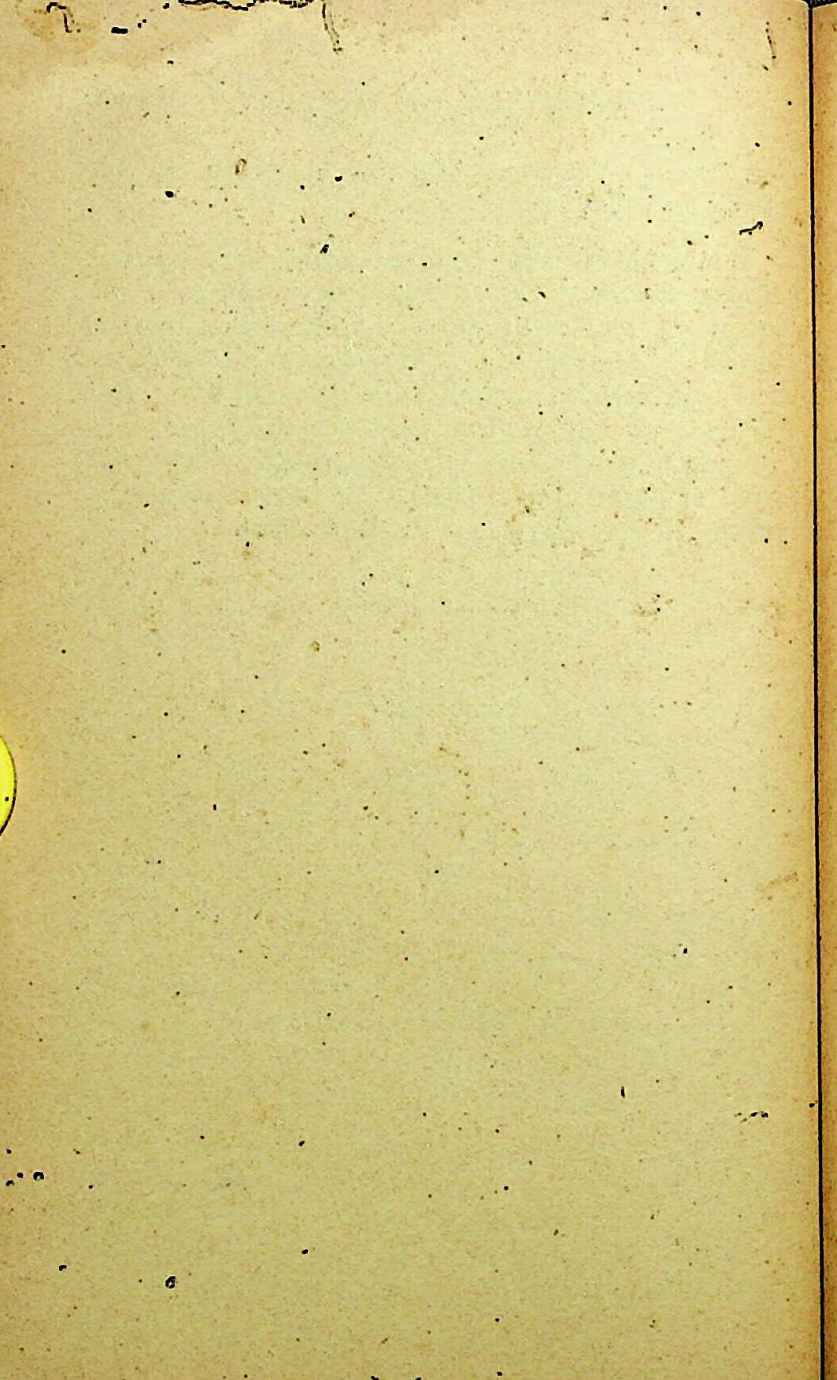
Guglielmo Marconi was not only a great scientist and inventor but was also a perfect business mar. Mr. Preece the Engineer-in-chief of the General Post Office was a great help to him to bring his invention to general notice. It exhibited great commercial possibilities and Marconi incorporated 'The Wireless Telegraphy 2 Signal Company Limited" on 10 July 1896 with a view to bring the full development of his system. Afterwards another company 'The Marconi International Marins Communication cosed' was formed on 25 April 1900.

Not only this Marconi was a man of ready action. He was always keen to put his apparatus to test in different situations and places. Once he obliged his friend by installing a wireless set in his house. On another occasion, he received the war news on board while sailing on sea with his set.

Marconi always believed in doing the work with his own hands. He knew everything for his purpose. Once he surprised the French officials by himself working as a mechanic, handyman, electrician and labourer. In fact, Guglielmo Marconi had a great ability to work according to the needs of the moment.

Through Marconi was somewhat afraid of adverse criticism and mockery but he never hesitated to put his ideas into practice. While trying to bridge the Atlantic. Great scientists expressed doubts about his success. Some of them advised him to abandon the attempt.

But Marconi was always self confident. He tried and success was with her forever.

Marconi was also keen to consider the suggestion of great scientists. He exchanged views with great Edison of America about improving his wireless system. Guglielmo Marconi's growing fame brought some criticism and enemies but he faced them all with great courage. In fact, Marconi was a scientist not for science's sake but for some practical purpose which could serve the humanity as a whole. He was a true man of action and never felt proud of his greatness.

Lesson 5

THE MAN WHO SPLIT THE ATOM

By

(Lord Rutherford)

Summary

Originally the forefathers of Lord Rutherford, the man who split the Atom, belonged to Perth Scotland. But in 1842, they left to settle in New zealand, James Rutherford, his father was the owner of a flax mill. Ernest Rutherford (Later, Lord Rutherford) was the fourth child of the family. He was born in 1871, and soon presented himself as a brilliant and promising students in his school.

Ernest Rutherford had great capacity to concentrate mechanical things and won several prizes for Physics and Chemistry. On getting a junior University scholarship at the age of 17. He went to christchurch. He showed keen interest in electro magnetic waves and built a 'magnetic detector' for his own use. As he published reports in scientific journals, physicists became attentive his ideas. He tried to earn his livlihood as a teacher but them miserably failed in his attempt.

Mean while, in 1851, he got the scholarship at Cambridge University to do the research work. The money for his passage was borrowed and Ernest Ruther ford left for England. He experimented with Hertzian electro-magnetic waves and much impressed his fellow-scientists. Then the discovery of the mysterious x-rays was made and he helped his Professor, Thomson in his experiments. It led to the discovery

of cathode-rays. Soon after wards Polish Professor Becquerel discovered a new kind of rays--through uranium pie:es. On the other hand Marie curice discovered radium' and the theory that matter consisted of indestructible particles called atom was changed to the fact that atom was divisible under certain circumstances.

Ernest Rutherford published his new findings on these discoveries and became a University professor in Montreal Canada. He also married Mary Newton that year. His life was happy and his scientific activities were attracting the scientists all over the word. Rutherford gave for the first time the idea of using the power of the disintegrated atom In 1904, he published the world famous book Radioactivity which brought him great laurels.

After three years Rutherford was appointed Professor and Director of the Manchester University Laboratory in England. He at once sat down to solve the secrets of atom which was completely unknown to the world. At the age of 57, he won the Noble Prize and was invited at tea with the king. He was highly praised by leading scientists and honours were bestowed, on him from every corner. In 1911, Rutherford created the modern theory of the structure of the atom with its nucleus, electrons, protons and neturons. Then suddenly the first world War broke and many young scientists were killed on the battle field.

Rutherford was asked to work for the Admiralty Board of Invention and Research, in the department dealing with submarines, mines and searchlights. He designed listening-instruments no fight against the v-boats of Germany. After the end of war, he was appointed at the post of Professor of experimental

Physics at Cambridge. It was that Rutherford devoted his full attention on atom-smashing. It was confirmed that matter cold be dissolved into energy and perhaps energy could be condensed into matter.

Then in 1931, he was honoured as a baron with the title 'Lord Rutherford of Nelson' The next year in 1930, another sensational news of shooting protons powered by energies over 6000,000 volts at lithium atoms was recеined all over the world. Atom, splitting was a successful process now, Lord Rutherford died in 1937 at the age of 65 after starting the atomic age the modern times.

पाठ का हिन्दी संक्षेप

भौतिक रूप से लार्ड रदरफोर्ड, अणु को विभाजित करने वाले व्यक्ति के पूर्वज पर्थ, स्काटलैंड के निवासी थे। लेकिन १८४२ में वे न्यूजीलैंड में बसने के लिये सपरिवार चले गये। उसके पिता जेम्स रदरफोर्ड एक पटुआ (सन) बनाने वाली मिल का स्वामी था। अर्नेस्ट रदरफोर्ड (वाद में लार्ड रदरफोड) परिवार का चौथा वालक था। उनका जन्म १८७१ में हुआ था और उन्होंने शीघ्र ही अपने को एक बुद्धिमान तथा आशापूर्ण विद्यार्थी के रूप में विद्यालय में प्रस्तुत किया।

प्रारम्भ से ही अर्नेस्ट रदरफोर्ड में किसी एक विचार पर एकाग्र हो जाने की महान क्षमता थी। वह यान्त्रिक वस्तुओं से प्रेम करता था और भौतिकी तथा रसायन में अनेकों पुरस्कार प्राप्त किये थे। सत्रह वर्ष की आयु में उन्होंने एक अल्पवयस्क (छोटा) विश्वविद्यालय छात्र-वृत्ति प्राप्त करके क्राईस्टचर्च कालेज में प्रवेश लिया। उन्होंने विद्युति चुम्बक तरंगों में विशेष रुचि प्रदर्शित की तथा एक चुम्बक परिचायक अपने प्रयोग के हेतु बनाया। उन्होंने समय समय पर वैज्ञानिक पत्रों में समाचार प्रकाशित करवा कर वैज्ञानिकों का ध्यान अपने विचारों

की ओर आकर्षित किया। खर्च की कमी को पूरा करने के लिये उन्होंने एक अध्यापक के रूप मे कार्य किया परन्तु इसमें वह सफल न हो सके।

उसी मध्य १८६१ में उन्हें अनुसन्धानिक कार्य करने हेतु कैम्ब्रिज विश्वविद्यालय की छात्रवृत्ति प्राप्त हुई। अपनी यात्रा के लिये धन एकत्रित करके अर्नेस्ट रदरफोर्ड इग्लैंड चले गये। वहां पर उन्होंने हर्त्स की विद्युत्, चुम्बक तरगों से प्रयोग किया तथा अपने साथी वैज्ञानिकों को अत्यन्त प्रभावित किया। फिर रहस्मय क्षरश्मि की खोंज हुई और रदरफोर्ड ने अपने प्रोफेसर थांमस की सहायता प्रयोग करने मे की। परिणामस्वरूप ऋृणाग्र तरगों (कैथोड तरंगों) की खोज हुई। उसके उपरांत शीघ्र हीं पोलैंड के प्रोफेसर वेक्यूरल ने एक नवीन प्रकार की तरंगें—वेक्यूरल तरंगों की खोज यूरेनीअम के टुकड़ों द्वारा की। दूसरी ओर मैरी क्यूरी ने 'रेडियम' की खोज की और यह सिद्धान्त कि द्रव्य अविनाशी कणों, अणु को रखता है इस तथ्य में परिवर्तित हो गया कि कुछ परिस्थितियों में अणु भी विभाजनीय था।

अर्नेस्ट रदरफोर्ड ने इन खोजों पर अपनी नवीन वातों को प्रकाशित कराया और मोन्ट्रियल, कनाडा, में एक विश्वविद्यालय में प्रोफेसर हो गया। उसी वर्ष उन्होंने मैरी न्यूटन से विवाह कर लिया। अब उनका जीवन सुखी था और उनकी वैज्ञानिक क्रियायें संसार भर के वैज्ञानिकों को अपनी ओर आकर्षित किये हुये थी। रदरफोर्ड ने पहली बार विभाजित अणु की शक्ति को प्रयोग करने के विचार को प्रगट किया। उन्होंने १९०४ में अपनी विश्व-प्रसिद्ध पुस्तक 'विकिरणशीलता' (रेडियो एक्टीविटी) पुस्तक प्रकाशित की जिसने उनके नाम में चार चांद लगा दिये।

तीन वर्ष उपरांत रदरफोर्ड की नियुक्ति इग्लेंड में मैनचेस्टर विश्वविद्यालय प्रयोगशाला में प्रोफेसर तथा डायरेक्टर के पद पर हुई वहाँ

ार वह शीघ्र ही अणु के रहस्य को सुलझाने में जो अब तक बिल्कुल अपरिचित थे लग गये। सैंतीस वर्ष की आयु में उन्हें नोबल पुरस्कार प्रदान हुआ और उन्हें सम्राट के साथ चाय पीने का सुअवसर मिला। प्रमुख वैज्ञानिकों ने उनकी भूरि भूरि प्रशंसा की तथा प्रत्येक भाग से उन पर आदर प्रकाशित हुआ। १९११ में रदरफोर्ड ने नाभिक, इलेक्ट्रान, प्रोटान तथा न्यूट्रोन सहित अणु की बनावट का आधुनिक सिद्धांत प्रतिपादित किया फिर यकायक प्रथम विश्व युद्ध प्रारम्भ हो गया तथा अनेकों नवयुवक वैज्ञानिक युद्ध में मारे गये।

आविष्कार तथा अन्वेषण के एडमिरालिटी बोर्ड द्वारा रदरफोर्ड से पनडुब्बियों, खानों तथा निरीक्षक-प्रकाश के विभाग में कार्य करने के लिये कहा गया। उन्होंने जर्मनी की 'यू-नावों' से युद्ध करने हेतु सुनने वाले यन्त्र का आकार बनाया। युद्ध के उपरान्त वह कैम्ब्रज में प्रयोगात्मक भौतिकी के प्रोफेसर के पद पर नियुक्त हुये। यहां पर उन्होंने 'अणु छितराने' पर अपना पूर्ण ध्यान देना प्रारम्भ किया। यह निश्चय हो गया कि द्रव्य को शान्ति में परिवर्तित किया जा सकता था और सम्भवतः शान्ति को द्रव्य में संधारित किया जा सकता था।

फिर १९३१ में उन्हें बैरन बनाकर 'नेल्सन का लार्ड रदरफोर्ड' की पदवी से सम्मानित किया गया। अगले वर्ष १९३२ में विश्व भर में दूसरी सनसनी उत्पन्न करने वाला समाचार, साठ लाख वेल्टस की शक्ति से पूर्ण लिथियम अणु पर छूटने वाला प्रोटान, फैल गया अब अणु विभाजन की विधि पूर्ण रूप से सफलता पा चुकी थी। इस प्रकार आधुनिक समय का अणु युग प्रारम्भ करके लार्ड रदरफोर्ड छासठ वर्ष की आयु में १९३७ में स्वर्ग सिधार गये।

Pages 109, 111.

George Rutherford............special favourite.

Page 109

Word Meanings—Wheelwright-व्हीलराइट-a man who makes wheels—गाड़ी का पहिया बनाने वाला। Pioneers—पायनियर्स—chief persons—मुख्य व्यक्ति, नायक। Colonize—कोलोनाईज—to establish a colony—नई बस्ती बसाना। Capsized—केप्साईज्ड—overturned—उलट गई। Sleepers—स्लीपर्स—planks of timbers to which a line of rail is fixed—लकड़ी की धरन जिस पर रेल की लाइन जड़ी होती है। Ribs—रिब्ज—पसलियां। Livelihood—लिवलीहूड—means of earning—जीविका। Flax mill—फ्लेक्स मिल—a mill in which lines is made from fibres—पटुआ (सन) बनाने की मिल।

Page 110

Word Meanings—Brilliant-ब्रीलियेन्ट—bright—तीव्र। Scholarship—स्कोलरशिप—a money allowance given to a student—छात्रवृत्ति। Physics-फिजिक्स-भौतिकी। Chemistry—केमिस्ट्री—रसायन। Literature—लिट्रेचर—साहित्य। Faculty—फेकल्टी—quality—गुण। Extraordinary—एक्स्ट्राओरडीनरी—chief—मुख्य। Concentration-कसेन्ट्रेसन—devoting full attention—व्याग्र चित्त। Turmoil—टरमोइल—noise कोलाहल। Abstraction—एब्सट्रेक्सन—absence of mind—अचेतता। Banging-बेन्गिंग—beating—मारना। Bolting—बोल्टिंग—a sudden short—एकायक प्रारम्भ करना। Paddock—पेडक—a small field—छोटा खेत। Mechanical—मेकेनिकल—related to machine—यान्त्रिक।

Page 111

Word Meanings—Wild pigeons—वाईल्ड पिजियन्स—जंगली कबूतर। Favourite—फेवरिट—beloved—प्रिय।

Pages 111—116

At 17, young Rutherford.............use shortly.

Page 111

Word Meanings—Decade-डिकेड—a series of ten years—दस वर्ष की अवधि। Acquainted—अक्वेन्टेड—familiar—परिचित। Electro- magnetic— विद्युत-चुम्बक तरंगे। Oscillator—ओसीलेटर—a machine that produces oscillation—स्फुरण उत्पन्न करने वाला यन्त्र (दोलक)। Draughty—ड्राटी—allowing of draughts of air—झकोरेदार। Cellar—सीलर—an underground room—तहखाना। Makeshift—मेकशिफ्ट—temporary—क्षणिक। Reliable— विश्वसनीय। Magnetic detector—मेग्नेटिक डिटेक्टर—चुम्बकीय परिचायक। Published—पब्लिश्ड—made printed—प्रकाशित की। Journals-जर्नल्स—magazines—पत्रिकायें। Physicists—फिजिस्टस—भौतिकी।

Page 112

Word Meanings—Authority—अथोरिटी—power—शक्ति। Nerve—wrecking—नर्वे—रेकिंग— effecting—badly—बुरी तरह से प्रभाव करने वाला। Turmoil-टरमोइल—noise—कोलाहल। Potatoes—पोटाटोज—आलू। Reception—रिसेप्सन the act of receiving—संग्रहण। Magnetized—मेग्नेटाईज्ड—turned into magnet—चुम्बकित किया हुआ।

Page 113

Word Meanings—Magnetism-मेग्नेटिज्म-the power of magnet — चुम्बकत्व। Deflection — डेफ्लेक्सन—downward-bend, deviation—नीचे को झुकाव। Obstacles-ओब्स्टेक्लस— hindrances —बाधायें। Typical—टिपिकल—peculiar—विलक्षण। Regardless— रिगार्डलेस—with out any consideration of—बिना किसी विचार के। Distinguished—डिस्टिंगुईस्ड— renouned— प्रसिद्ध। Astronomer—अस्ट्रोनोमर—one who is versed in astronomy—ज्योतिषी।

Proximity—प्रोक्सीमिटी—nearness—समीपता। Fog—फोग—कुहरा। Revealing—रिवीलिंग—showing प्रगट करते हुये। Is exhausted—इज एग्जोस्टेड—is emptied—खाली कर लिया जाता है। Discharge—डिस्चार्ज—elease—निरावेश।

Page 114.

Word Meanings - Cathode-ray—कैथेड-रे—ऋणाग्र किरणें। Minute—माईन्यूट small—सूक्ष्म। Subatomic particles—सब अटोमिक पारटिक्लस—particles with certain atomic qualities—उप अणु कण। Electrons minute particles charged with negative electricity—इलेक्ट्रान्स। Electronics—इलेक्ट्रान्स—the science of the behaviour of free electrons—इलेक्ट्रान्स के स्वतन्त्र व्यवहार का शास्त्र। Technical—टेक्नीकल—प्राविधिक। Enormous—इनोरमस—vast, great—विशाल। Appliances—अपलायेन्सेज—instruments—साधन, यन्त्र। Traffic—ट्रैफिक—commerce—व्यवसाय। Mechanical brains—मेकेनिकल ब्रेन्स—machins meant for calculations—यान्त्रिक मस्तिष्क। Televison—टेलेवीजन। Negative—नेगेटिव—ऋणात्मक।, Weight—तोलना। Developed—डेवेलप्ड -made visibled—परिस्फुट किया। Cracks क्रेक्स—partial fractures—दरारें। Wrapped—रेप्ड—covered—लपेटे गये। Undamaged—अन्डेमेज्ड—unharmed बिना नुकसान हुआ। Strenuous—स्ट्रेनुअस—hard—कठोर।

Page 115.

Word Meanings—Luminous—लुमिनस—shinning—चमकने वाला; Substance—सबस्टेन्स—matter—पदार्थ; Encased एन्केस्ड—was present—उपस्थित था; Evidently—एवीडेन्टली—clearly—स्पष्ट रूप से; Disintegrating—डिसइन्टीग्रेटिंग—separating—पृथक करते हुए; Nonsense—नोन्सन्स—useless—व्यर्थ; Indestructible इन्डेस्ट्रक्टीवल—which can not be destructed—अविभाज्य, (जो नष्ट न हो सके); Traditional—ट्रेडिस्नल—related to tradition—परम्परागत; Divisible—डिविजिब्ल—could be divided विभाजन योग्य; Cylinder—सिलन्डर—roller—वेलन।

Pages 116—119.

The new professor...........lead into gold.

Page 116.

Word Meanings— Blank—ब्लेन्क–empty—रिक्त ; Indicate—इन्डीकेट—show—दिखाना ; Stupid— स्टुपिड—foolish—मूर्ख ; Concentrating—कन्सेन्ट्रेटिंग—fixed— निश्चित (एकाग्र) ; Radiation—रेडियेसन—diffusion of rays of light —विकिरण (प्रकाश की किरणों का मिश्रण) ; Adored —अडोरड —lovely—प्रिय ; Isolated—आईसोलेटेड—deserted–पृथक ; International—इन्टरनेशनल—अन्तर्राष्ट्रीय ; Emanation—एमानेसन origination—उत्पत्ति ; Amazed– अमेज्ड — surprised —आश्चर्य में डाल दिया।

Page 117.

Word Meanings Disintegrating— डिसइन्टेग्रेटिंग—dividing –विभाजित होते हुये ; Pitchblende–पिचब्लेन्ड—डामर लगा हुआ ; Geology—ज्योलोजी—the science of eartho' crust—भूगर्भशास्त्र ; Evidence-–एवीडेन्स —proof–– प्रमाण ; Radio–activity—रेडियो एक्टिविटी —(विकरण शीलता रेडियो धर्मिता ; Distinguished— डिस्टिन्गुइस्ड — famous—प्रसिद्ध ; Did not turn his head—did not make him proud—उसे घमण्डी नहीं बनाया ; Stunner-–स्टनर—one who stuns–– मूर्छित करने वाला ; Broom—ब्रूम—झाड़।

Page 118.

Word Meanings—Occupation— ओकूपेशन–work—कार्य ; To switch of—to remove—हटाना Tension—टेन्सन —strain—तनाव ; Detective novels— जासूसी उपन्यास; Biographies–ब्योग्राफीज—जीवन कथा ; Devoured—डेवारड —hurriedly read –शीघ्रता से पढ़ गया ; Ingenious - इन्जीनिअस—skilful—कुशल ; Alpha—अल्फा—gas molecules—गैस मोलीक्यूल्स — गैस के अणु ; Appreciate—एप्रीमियेट—understand—समझना ; Microscope—माईक्रोस्कोप—दुर्बीन ; Pincers –-पिन्सर्स —gripding tools—सडांसी ; Disect––डिसेक्ट––

to divide into pieces—चीड़फाड़ करना ; Investigations--इन्वेस्टीगेसन्स—act of finding facts—पता लगाना ; Complicated—कम्पिलीकेटेड—consplex —जटिल ; Circums tantial evidence— सरकम्सटेन्शियल एवीडेन्स — proof given by certain circumstances—कुछ परिस्थितियोंवश प्राप्त प्रमाण।

Page 119

Word Meanings-Convincing—कन्विन्सिग–संतुष्ट करने वाला ; Transformation—ट्रांसफोरमेशन—change from one form to another—रूपान्तर (रूप परिवर्तन) , Superstitions—सुपरस्टीशंस—addicted to superstition—असत्य धर्मी ; Alchemist—आलकेमिस्ट—one who deals with alchemy—रसायन बनाने वाला।

(Pages 119—123)

Ernest Rutherford.................and search lights.

Page 119

Word Meanings:—Distinction–डिस्टिक्सन– excellence—श्रेष्ठता। Scramble—स्क्रेम्बल—struggle—झड़प।

Page 120

Word Meanings—Montrosity–मोंट्रोसिटी— horrible object — भयानक वस्तुयें। Ultra— fashionable — अल्ट्रा फैशनेबल— extremely fashionable — अत्यन्त फैशन वाली। Piebald—पाईबाल्ड—of two coutrasting—colours—मिले हुये दो रंग के, Queer—क्यर—strange—विचित्र। Get ups— गेटअप्स—dresses—पोशाक। Knighthood—नाईटहूड —a position of honour—सम्मान की पदवी (नाइट की पदवी)। Was bestowed—वाज बेस्टोड—was offered—प्रदान की गई। Recognition–रिकग्नीसन–acknowledgement–स्वीकृति, मान्यता Embarrassing —एम्ब्रेसिग—perplexing – घबड़ाने वाली। Impecunious—एम्पेसूनियस—poor — निर्धन। Inestimable——इनएस्टीमेबल—great —महान। Transpire— ट्रांसपायर— to companions, co-workers—सहयोगी। Modesty—मोडेस्टी

—moderation—नम्रता । Ushered—अशर्ड—introduced—प्रविष्ट हुई । Obviously—ओवियसली—clearly—स्पष्ट रूप से ।

Page 121

Word Meanings-Deduction—डिडक्सन – deducings—अनुमान । Kernel –कर्नेल—the inner part – मध्य भाग । Nucleus—न्यूक्लस—नाभिका । Mass—मास—a lump of matter—पिंड, संहात । Planets—ग्रह । Liberated—freed—स्वतंत्र किया जाना । Disrupting—डिसरप्टिंग—separating—पृथक करने पर । Elliptical—एलिप्टीकल—having the from of an ellipse-दीर्घवृत्ताकर (अण्डाकृति) Revoling—रिवोल्विंग—taking rounds—चारों ओर घूमना । Charge—चार्ज—आवेश (चार्ज) ।

Page 122

Word Meanings-Transmtation-ट्रांसमूटेसन—a change into another form—बदल कर दूसरा आकार धारण करना Alchemist—आल्केमिस्ट—one who deals in alchemi-रसायन बनाने वाला ।

Page 123

Word Meanings—Combatants-कम्बेटन्टस—soldier—सिपाही । Submarines—पनडुब्बियां । Searchlights—सर्च-लाईटस—खोजने वाला प्रकाश ।

Pages 123—125

Germany's v boats had .... won the prize.

Page 123

Word Meanings—Menace—मेनस—threat—धमकी । Mobilized—मोबिलाइज्ड—prepared for active service—गतिमान कर दिया । Counter—measure—प्रतिवादी कदम । Grinning—ग्रिनिंग—affected laughing—दांत बन्द किये हंसते हुए । Designed—डेजाइन्ड—gave shape—आकार दिया ।

Page 124

Word Meanings-Bombarding—बोम्बार्डिंग-attacking

fiercely—बुरी तरह से आक्रमण करना। Radio—active substance—रेडियो एक्टिव सब्स्टेन्स—विकरण शील पदार्थ। Foil—फोइल—a very thin leaf of metal—धातु का महीन वर्क। Zinc sulphide—जिन्क सल्फाईड—जस्त सल्फाइड। Faint—फेन्ट—weak—क्षीण। Smashed—स्मैस्ड—separated—पृथक हुये। Nuclei—न्यूक्ली - नाभि। Microscope—माईक्रोस्कोप—an optical instrument for magnifying objects—अणुवीक्षण (दुरबीन)। Preliminary—प्रीलिमिनरी—of beginning—प्रारम्भ का। Snob—स्नोब—showing person—दिखावटी व्यक्ति। Accomplished—अकम्प्लिस्ड—achieved—प्राप्त कर लिया। Transmutation—ट्रान्स्मूटेसन—changing form from one to another—रूप परिवर्तन करना।

Page 125

Word Meanings—Collision—कोलिजन—striking together—टक्कर। Vanished—वैनिश्ड—disappeared—अदृश्य हो गई। Implication—इम्प्लीकेशन—entanglement—लपेट। Condensed—कन्डेन्स्ड—compressed, reduced into denser—form—घना किया हुआ, संचारित किया हुआ। Preseverd—प्रिजर्व्ड—keps carefully—सावधानी से रखे गये। Athletes—अथलीट्स—players—खिलाड़ी। Twinkle—टविन्कल—shine—चमक।

Pages 126—128

A news paperman gave............fetile lands.

Page 126

Word Meanings—Blunt—ब्लन्ट—plain—सरल। Feature—फीचर—appearrance—रूप। Shrewd—श्रूड—sharp—तेज। Tweeds—टवीड्स—woollen fabries—ऊनी वस्त्र। Aggressively—अग्रेसिव्ली—in an aggresive manner—उत्तेजना से। Laurels—लारेलस—great honours—महान प्रतिष्ठा। Lab boy—प्रयोगशाला में कार्य करने वाले लड़के। Perenonial—पेरेनियल—lastin for ever—निरन्तर, सदैव रहने वाली। Inexhaustible—इनएग्जास्टिबल—never ending—कभी समाप्त

न होने वाला । Replacements-रिप्लेसमेंटस-act of replacing-पुन: स्थापित करना । Console—कन्सोल-solace —धैर्य ।

Page 127

Word Meanings—Dignified—डिग्नीफाईड—marked with dignity—प्रतिष्ठित । Intricate—इन्ट्रीकेट-Complicated-गहन । Topical—टोपिकल—pertaining to a discourse—प्रकरण सम्बन्धी । Investigation—इन्वेस्टीगेसन—research—अनुसन्धान, खोज । Lithium—लिथियम । Helium— हीलियम । Conscience—कान्शैंस—moral sense of right and wrong—सद्विवेक । Stroke—स्ट्रोक—sudden attack—आघात । Spectre —स्पेक्टर – ghost—भूत ।

Page 128

Word Meanings—Inconspicuous– इन्कोन्सपीकुअस—scarcely discermbl —अप्रत्यक्ष । Chemical twin—केमिकल टविन—रसायनिक जुड़वाँ । Potential—पोटेन्सियल— powerful —प्रबल ।

Questions And Answers

Q. 1. What do you know about the parentage of Ernest Rutherford ?

अर्नेस्ट रदरफोर्ड के माता पिता के बारे में तुम क्या जानते हो ?

Answer:—

Ernest Rutherford was born in 1871 at Nelson Newzealand. His grand father was a wheel wright at Perth, Scotland but he had gone to Newzealand with some persons in 1842 to settle there. At that time James Rutherford, father of Ernest Rutherford was only twelve years old.

James Rutherford fell in leaves Martha Thompson a school teacher and married her in 1866. As a result of this happy union six boys and five girls were added to the family. Ernest Rutherford was the fourth

flax mill owner.

child in this series. In the beginning, his father James Rutherford was a wheelwright like his father. He used to supply railway sleepers to the Government. Once he was badly injured while loading them. As he could not supply sleepers for a long period. Government cancelled further ordersand he had to build a flax mill which gave a good financial return to him. As such Ernest Rutherford belonged to a middle class family who was having a comfortable existence.

Q. 2. Describe the early student life of Ernest Rutherford.

अर्नेस्ट रदरफोर्ड का प्रारम्भिक विद्यार्थी जीवन वर्णन करो।

Answer:—

Ernest Rutherford was quite brilliant and promising student at school. He had a great interest in Physics, Chemistry,Lolin, French, History and English Literature. He had won several scholarships and priges for Physics and Chemistry.

Though sometimes Rutherford was simple-minded like other boys of his age but he had a great capacity of concentration even amid great noise and disturbance. Once he himself related the incident of his early life when he had tied a big branch with the tail of the cow whom he had gone to fetch. As the branch jammed in a narrow gate, the last but of her tail broke off and he buried it in the ground like a simple former boy.

As a matter of fact, Ernest Rutherford had a great love for me chamical things. He always tried to prepare models of water-wheels clock and cameras. He was also interested in general reading and specially novels.

Q. 3. How did Rutherford get the opportunity to go to Cambridge for higher studies ?

रदरफोर्ड को उच्च अध्ययन के लिये कैम्ब्रिज विश्वविद्यालय जाने का सुअवसर कैसे प्राप्त हुआ ?

Answer:—

Earnest Rutherford was a brilliant boy at school. He had won several scholarships and prizes in physics and chemistry. At the age of seventeen he had won a junior university scholarship which has enabled him to study at christ church. He passed the first section of his B. A. degree from there.

It was a period of great inventions and discoveries and the existence of electro magnetic waves by Heinrich Hertz was the most current topic. Rutherford built his own oscillator to produce such waves and invented a 'magnetic detector' to detect these waves. It was the first scientific subject on which he paid his attention and published his findings in scientific journals. It attracted the attention of physicists in many countries. He was also working as a teacher to meet his expense.

Meanwhile, the Great Exhibition of1851 in London took place and it showed a large profit. Prince Albert decided to grant scholarships to promising young men for their higher studies. The name of Ernest Rutherford was also forwarded for consideration. One day while digging potatoes in his field his mother broughts a letter for him. It was from the 1851, Royal commission which stated the grant of scholarship to him. It was a great opportunity in his life and Rutherford left for England to join the Cavendish Laboratory in 1895.

Q. 4. How did great discoveries of his age fluence the career of Rutherford ?

उसके युग की महान खोजों ने रदरफोर्ड के जीवन को किस प्रकार प्रभावित किया ?

Answer:—

Ernest Rutherford was born in age when scientific discoveries and inventions had begun in the history of mankinds. He was a typical scientist who always attacked the mysteries of Nature for its own sake. The first discovery with which he started his scientific research was the existence of electro magnetice waves by Heinzich Hertz in Germany. Ernest Rutherford buil his own oscillator to produce these ways. He also built a 'magnetic detector' to observe them As he pulished his findings in scientific journals kiysicious began to pay attention to his ideas.

Rutherford was lucky enough to get the scholarship for research work at Cavendish Laboratory, England. He impressed his fellow scientists by receiving signals upto half a mile with his apparatus. While he was dealing with electro-magnetic waves the discovery of X-rays by Professor Rontgen came to his knowledge. He assisted his Professor. Thomson in his experiment which resulted in discovering cathode rays-particles of negative electricity electrons

Just after that the news of the discovery of Becquerel rays was reported. A young Polish research worker Marie Skoldowska had marked some unknown source of light in unanium pieces. Professor Becquerel experimented on it and found Becquerel rays. But Marie was not satisfied with it and with further experiments she concluded that a very strong luminous

substance with entirely new nature was disintegrating itself. It was certain that under certain circumstances atom was divisible.

As a result of all these discoveries Ernest Rutherford began experiments on this new element pointed by Marie Curie. Later on, it led him to atom-splitting, the greatest work of his life time. Really, the great discoveries of his age, showed the way to Rutherford who being a born scientist concentrated his mind on new scientific problems and introduced the atomic age to the modern world

Q. 5. Give a short account of Ernest Rutherford's life in Macgill University in Montreal Canada.

मांट्रेयल कनाडा में मेकगिल विश्वविद्यालय में अर्नेस्ट रदरफोर्ड के जीवन का संक्षिप्त वर्णन दो।

Answer:—

Ernest Rutherford was growing as a promising Foung scientist. He had published his fndings about a substance promited out by Merie Curieo and found two kinds of rays. At the same time the post of Professor of physics felt vacant in Macgill University in Montreal, Canada. It was offered to Rutherford who accepted it gladly. He also married his beloved Mary Newton and began to live a happy life in Montreal.

Rutherford nicely adjusted his lectures according to the understanding of students. Then he concentrated his attention on uranium and its radiation. His continuous research work attracted the physicians all over the world. His work became so significent that Montreal turned to be a kind of international capital for physical research. It was here that he had

remarked about the possibility of utilising the poorer of the disintegrating atom. Even his jokes were scientific in nature.

Rutherford published his first book 'Radio activity' in 1804 which brought great honours and name to him Europe. In fact, Rutherford never felt proud of his great work and honours. Often he used to invite students and professors at his home for entertainment. He had also begot a daughter Eileen Mary in 1901. He had a nice home, a beloved wife and a lovely baby. He was much fond of reading detective nobles, popular history and biographies. His life in Macgill University was full of happiness and scientific work. He had earned worldwide recognition of his physical research.

Q. 6. What were the difficulties in the way to find the nature of atom and how did Rutherford solve it ?

अणु की प्रकृति का पता लगाने के पथ में क्या कठिनाईयां थीं और रदरफोर्ड ने उन्हें कैसे हल किया ?

Answer:—

Ernest Rutherford was quite anxious to find the nature and secret of atom. He had formed a mental picture of it but it was to be disclosed with concrete proof. There were great difficulties in this way. It was such an object that even most powerful microscope could not show it to him. Besides it, the form was not known and everytning depended on mere assumption and idea. He had to act like a detective in order to form a picture of the atom whose behaviour and structure was a complete mystery to him.

But Rutherford did not lose his heart on this basis. He had formed a mental image of the atom. His dis-

coveries and scientific working was quite different from the traditional path of scientific research. His experiments showed that the transformation of one element into another was possible and was definitely taking place in Nature all the time.

At present Ernest Rutherford was acting as Professor and Director of the Manchaster University Laboratory in England. He observed alpha particles and went further into the unknown world of the atom. It was in 19 11 that Ruther came to know about the secrets of atom. He had found that in the middle of every atom there is nucleus, the actual mass of the atom and a positive electrical charge. Around this nucleus are a number of revolving electrons, negative electrical particles with no mass. This theory of atom clearly indicated that great energies were present in them which could be changed into rays of energy by disruphing the atomic nucleus. Thus, Ernest Rutherford was successful to solve the secrets of atom and proved that the transformation of one elementi into another was a solid fact.

Q. 7. What great honours came to Rutherford during his research work in Physics ?

रदरफोर्ड को भौतिकी में उसके अन्वेषण कार्य के लिए क्या महान सत्कार मिले ?

Answer:—

Ernest, Rutherford was a keen student of Physics and Chemistry. New great discoveries had given fresh ideas to him. Rutherford concentrated his experiments on electro-magnetic waves and then began his efforts to find the nature and form of atom.

In 1904, he published his first book 'Radio activity' at the age of 33. It was an unique book of its kind and brought great honours to him. He was honoured with medals and fellowships of distinguished societies. It was the first time that his fame spread on all fronts.

As the Professor and Director of the Manchester University Laboratory, England, he walked into the unknown world of the atom. Uranium and radium rays have brought him quite near to it. His reseach work was widely acclaimed and he was honoured with the Nobel Prize for physics at the age of 37 only. He was invited to tea with the king. In 1914, during New Year's honours, he got knigthood as his due reward. Even Madame Curie, spoke high of his great research work. It was a great honour shown by a fello-scientist of merit.

In 1911, Ernest Rutherford came to know about the nature of atom. Soon after that, he began his experiments to split the atom and succeeded to smash the nucleus. He was hailed one of the greatest scientists of his age. During the New Year's Honours of 1931, he was created a baron and the title of 'Lord Ruther ford of Nelson' was bestowed on him. All these great honours came to him in acknowledgement of his supreme physical research work. But Rutherford was never proud of them and received them always with great modesty and in difference.

Q. 8. What part did the first world war play in his career ?

प्रथम विश्व-युद्ध ने उसके जीवन का क्या भाग लिया ?

Answer:—

Ernest Rutherford was appointed as the professor

and Director of the Manchestor University Laboratory. As soon as he settled there, he began to experiment to find the nature of atom. Soon he discovered that there was nucleus in the middle of each atom and around it revolved electrons. Vast energies were locked up in these short worlds. He reached to the conclusion that the transmutation of one element into the other was possible. All the efforts were directed to wards that aim.

The Manchestor Laboratory had become like a happy family where great scientists from all over the world were working in the atom. Ernest, Rutherford seemed the father of this unit and discussed difficulties and problems over the cups of tea. While these expe riments were going on, the first world broke in 1914. Scientists from other countries left his laboratory and joined forces which resulted in death for many promising scientists.

Rutherford appealed the Government to use them as 'back room boys' to achieve more utility of these scientists. As a result, he was invited to work for the Admiralty Board of Invention and, Research in the department of submarines, mines and searchlights. Soon Rutherford developed a listening instrument to fight with dreadful German U–boats. When the war came to its end he was appointed at the post of Professor of Experimental Physics at Cambridge. Thus, the first world war brought some fresh experience.

Q. 9. How did Rutherford succeed to smash the nucleus of an atom ?

रदरफोर्ड अणु के नाभिक को पृथक करने में कैसे सफल हो सका ?

Answer:—

After coming back to his Cavendish Laboratory Ernest Rutherford started his efforts to breack the atom. He had already conclude that atom consists in the middle and a number of electrons revolve round it. These miniature worlds have great energies which can be used for the benefit of mankind by spliting them.

Rutherford used a very typical apparatus for his purpose. The whole of it was placed in a small bross box and the flashes of smashed nucleus was observed on the screen through a microscope. There was a radio active substance which provided the particles which shot against a fail covered with the material whose atoms were to be smashed. When these new particles fly off the split nucleus hit the screen covered with zinc sulphide. The whole process was easily observed in that typical apparatus.

As these experiments took place, the franswutation of one element into another was achieved. When one of these particles from radio active substance hit the nitrogen nucleus, it drove seven protons which became the micleus of a hydrogen atom. It meant that nitrogen changed into hydrogen. Soon, Rutherford also discovered that if all these particles are put together again, piece is missing from the nucleus which had transformed itself into pure energy. It proved that matter could be dissolved into energy and even energy could be condensed into matter. In this way, Ernest Rutherford succeeded to smash the nucleus and a now theory of the world brought a sensational news all over the globe.

Q. 10. Briefly describe the character of Ernest Rutherford, the Lord of Nelson.

संक्षेप में 'नेलसन का लार्ड' अर्नेस्ट रदरफोर्ड के चरित्र का वर्णन करो।

Answer:—

Earnest Rutherford was born in 1871 in the town of Nelson in New Zealand He was the fourth child of the family and was a brilliant promising pupil at school. He had a great interest in physics, chemistry, history and literature. During his student life he won several prizes and scholarships.

Great discoveries of his period greatly influenced his career. The first scientific problem with which he dealt was the existence of electromagnetic waves. Later on, he devoted his afforts to find the nature and secrets of atom. After that he split the atom and became the 'Lord Rutherford of Nelson' in 1931.

Ernest Rutherford loved mechanical things since his childhood. In the beginning he made his own oscillator. He also made models of water wheels, clock and camera. He was equally interested in reading novels biographies and popular history.

Rutherford was a simple and modest person. It was his characteristic thing to name one or the other of his colleagnes in connection with the important discoveries made by him. He was never proud of his great position and world wide honour. He never tried to impose his views on others but patiently continued his research to show the world that though his approach was not traditional yet it was more solid and frintgiving.

He did not like to attend parties where great show and vanity reigned. He was awarded the Nobel Prize

at the age of 7 and was invited by the king to a tea party at Windsor. Later on, he wrote to his mother about his dislike for such tering functions. As a man, he was quite social and pleasurable. Often he used to invite a crowd of students and professors to pass evening at his place in the company of his wife and love child Eileen Mary.

In fact, Ernest Rutherford was a man of great qualities. Characteristically he was on agriculturish with healthy colour, blunt features. shrewdlyes and heavy limbs. He was always good—humoured and smiling. Really his theory of atom-splitting completely changed the old phase of the world.

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Lesson 6
THE MAN WHO SAT THE WORLD ON WHEELS

By

(Henry Ford)

Summary

Henry Ford was born in Springwells Township in 1863 in America. His parents were farmers. Henry passed his student life as an ordinary boy but he earned a good fame as a clock on watch repairer. Then he turned to begin engines. One day he saw a steam locomotive on the road and built a crude steam engine model in his attic.

At the age of 13, his mother died. Henry, did not like the jobs on farm which he had to do unwillingly. So one day he ran away to detroit. He began

to earn some money by mending watches, but his father persuaded him to return as he could keep his interest in newly acquired threshing-machines on the farm. On his return he fell in love with clana Bryant and married her in April 1888.

His father had given forty acres of land to him in Dearborn where. Henry built new house for himself. Now he began to do experiments with farm locomotive and steam read carriage. He also proposed to clara to move to Detrist which she agreed. Henry began to work as a night-shift engineer in an electric power station. Soon he became chief engineer and father of a son. Then he shifted to another big house. Here he made his first engine with in week in his spare time. Though not very successful but at least it made noise to start.

Then after two years. Henry Ford completed a succesful engine and fitted it with hand made rough car. In May 1896 he took out his first motor-car with a petrol engine on the roads of Detroit. Though he was not the first to build motor cars in the world but was first to introduce it among Americans. The first model was rough and its approach on roads was warned by on alarm going, Anyhow, he sold that car for 200 dollars to a sportman.

Gradually his mind turned towards mass production of cars. Some businessman formed 'Detroit Automobile company' and ford became its chief Engineer leaving the job of Edison company. But his associates parted soon and ford renamed his company a Cadillac Automobile company'. In 1900, a Detroit, Reporter took a trip with him in a new modelled car and published an article with great praises of this

Automobile. Soon Henry Ford took part in a car race and defeated the best driver of America.

With great difficulty. Ford formed a big company in 1903 to produce cars on reasonable price. Several models came out in the market Ford motor cars were supplied all over the world. Conditions of working in Ford's factory became very comfortable and the standard of living of Americans began to rise 'tin. Lizz e' was one of the most popular model in the world by now. Then model came out which won the hearts of Americans. Meanwhile Seldom Trust's' claim was turned down by the United States Court in 1911. Production went on increasing and Ford company sold a quarter of a million course in 1914. Three shifts introduced in the factory. Working hours were reduced from nine to eight and at the same time wages were doubled.

During the first world war, Ford chartered a 'Peace Ship' to appeal for peace to the nations of the world. In 19·7, the whole factory was equipped again with new machine tools. New model was hailed as Lizzie has become Elizabeth.' Towards the end of 1941 the. ford plant was making engines for all purposes as jeeps, ships and aeroplanes. Even bombers and tanks were produced in ford factory.

Henro's son Edsel died at the age of 50. His grand son Henry Ford II took the management of Ford and old Henry ford retired to Dearborn at the age of 81. The family's fortime was estimated at £ 500 million. Henry Ford was the richest man on earth now. He died peacefully at the age of 83 in April 1947. Henry Ford had already set the world on wheels.

पाठ का हिन्दी संक्षेप

हेनरी फोर्ड का जन्म १८६३ में अमेरिका के स्प्रिंगवेल्स ग्राम में हुआ था । उसके माता पिता कृषक परिवार के थे। हेनरी ने अपना विद्यार्थी जीवन एक साधारण बालक की भांति व्यतीत किया परन्तु घन्टे तथा घड़ियों की मरम्मत करने के लिए वह अपने पूरे गांव में प्रसिद्ध था। फिर उसका मस्तिष्क बड़े इन्जनों की ओर गया। एक दिन उसने एक भाप का गतिशील इन्जन सड़क पर देखा और एक भद्दा सा भाप का इन्जन नमूने के रूप में अपनी अटारी पर बनाया।

तेरह वर्ष की आयु पर हेनरी की माता का स्वर्गवास हो गया। हेनरी जो अपनी इच्छा के विरुद्ध कार्य खेतों पर करता था, उससे ऊब गया था। अतः एक दिन अवसर पाकर डेट्रियोट भाग गया। वहां पर घड़ियों की मरम्मत करके वह अपने लिये कुछ धन उपार्जित करने लगा, इसी मध्य उसके पिता को हेनरी का पता लगा और उन्होंने उसे घर लौट आने को बाध्य किया। उन्होंने लिखा कि खेतों पर साफ करने वाले नवीन यन्त्रों का आगमन उसकी यन्त्रों में रुचि को संतुष्ट करेगा। वह लौट आया। फिर वह क्लारा ब्रायन्ट के प्रेम में पड़ गया और अप्रैल १८८८ में उससे विवाह कर लिया।

उसके पिता ने विवाह के उपलक्ष में उसे चालीस एकड़ भूमि डियरबोर्न में दी। हेनरी ने स्थान साफ करके अपने लिये एक मकान बना लिया। अब उसने चलने वाले भाप के इन्जनों पर प्रयोग करना प्रारम्भ कर दिया ! पर उसे अनुभव हुआ कि बिना डेट्रियोट जाये उसका यह प्रयास सफल नहीं हो सकता था। उसने अपनी पत्नी को यह विचार प्रकट किया और वह सहमत हो गई। हेनरी ने शहर आकर बिजली घर में एक इन्जीनियर के रूप में कार्य करना प्रारम्भ किया। शीघ्र ही वह प्रधान-इन्जीनियर तथा एक पुत्र का पिता बन गया। अब वह एक बड़ा सा मकान लेकर रहने लगा था। यहीं

पर उसने एक सप्ताह में ही अपना प्रथम इन्जन अवकाश के समय बनाया। यद्यपि यह पूर्ण रूप से कार्य न कर सका पर फिर भी इसने थोड़ा चलकर आगे की सफलता के लिये आशा अवश्य प्रदान की।

दो वर्षों के उपरान्त हेनरी ने सफलतापूर्वक एक इन्जन बना डाला और इसे एक भद्दी सी मोटर के साथ लगा दिया। १८९६ के मई माह में उसने अपनी प्रथम मोटर जो पेट्रोल से चलती थी डेट्रियोट की सड़कों पर निकाली। यद्यपि मोटर बनाने वाला वह संसार में प्रथम व्यक्ति न था पर अमेरिका निवासियों के लिए वही प्रथम था। उसका पहला नमूना कुछ भद्दा था तथा सावधान करने वाला घन्टा इसके आने की सूचना सड़क पर चलने वालों को देता था। हेनरी ने इसे दो सौ डालर में एक खिलाड़ी को बेच दिया।

धीरे २ उसका मस्तिष्क मोटरों को ऊंचे स्तर पर बनाने की ओर झुका। कुछ व्यापारियों से बातें करके 'डेट्रियोट ओटोमोबाल प्रधान इन्जीनियर बन गया। परन्तु शीघ्र ही साथियों से अनबन हो गई। उनके पृथक हो जाने पर फोर्ड ने इसका नाम परिवर्तित करके 'केडिलक ओटोमोबाइल कम्पनी' रख दिया। १९०० में एक सम्वाद-दाता ने हेनरी की मोटर में यात्रा की और अपने समाचारपत्र में इसकी भूरि भूरि प्रशंसा की। ठीक उसके उपरांत हेनरी ने एक मोटर दौड़ में भाग लिया और अमेरिका के सबसे उत्तम चालक को हरा दिया। इससे हेनरी को पर्याप्त प्रसिद्धि मिली।

किसी प्रकार बहुत कठिनाइयों के उपरान्त हेनरी फोर्ड ने १९०३ में उचित मूल्य पर मोटर बनाने के हेतु एक बड़ी फैक्टरी की स्थापना की। बाजार में अनेकों नमूने आये। फोर्ड द्वारा निर्मित कारें संसार भर में बिकने लगीं। उसकी कम्पनी में कर्मचारियों के लिये कार्य करने की दशायें अत्यन्त सुविधापूर्ण थीं तथा वह स्वयं देशवासियों के रहन सहन का दर्जा ऊंचा करने का इच्छुक था। अब तक विश्व में 'टिन लिज़ी' (टीन की बनी छिपकली) सबसे अधिक लोक-प्रिय

हो चुकी थी। फिर 'मोडल टी' बाजार में आया जिसने अमेरिका निवासियों के मन मोह लिये। उसी मध्य सेल्डन ट्रस्ट का अधिकार १९११ में संयुक्त राज्य न्यायालय ने समाप्त कर दिया। उत्पादन बढ़ता चला गया और फैक्टरी में तीन चक्रों में कार्य होने लगा। कार्य करने का समय नौ घन्टों से आठ घंटे कर दिया गया तथा मजदूरी दुगुनी करदी गई।

प्रथम विश्व—युद्ध में फोर्ड ने 'शांति जहाज' संसार के अनेकों देशों में भेजा जिसने शांति स्थापित कराने की भरसक कोशिश की। १९२७ में फोर्ड ने अपनी कम्पनी को नवीन यन्त्रों से पुनः सुसज्जित किया। मोटर के नये रूप निकले। १९४१ तक यह फैक्टरी कई प्रकार के इंजन निकालने लगी जैसे जीप, जहाज तथा वायुयानों के इंजन। यहां तक कि बम्ब डालने वाले वायुयान तथा टैंक भी फोर्ड कम्पनी उत्पादित करने लगी।

हेनरी का इकलौता पुत्र एडसल पच्चीस वर्ष की आयु में ही मर गया। हेनरी के पौत्र हेनरी द्वितीय ने फोर्ड कम्पनी का प्रबन्ध संभाला और वृद्ध हेनरी फोर्ड एक्यासी वर्ष की आयु में अलग हो कर डियर-बार्न में रहने लगे। इस समय पर परिवार की सम्पति पांच सौ करोड़ डालर थी। यह संसार का सबसे धनी व्यक्ति था। अप्रैल १९४७ में ८३ वर्ष की आयु में वह शांतिपूर्वक मर गया। वास्तव में हेनरी फोर्ड ने पेट्रोल से चालित मोटरें बनाकर विश्व को पहियों पर रख दिया था।

Pages 129—132

Word Meanings:—Ceaselessly—सीजलेस्ली—without stopping, continously—निरन्तर, लगातार। Deluge—डेलेज—heavy rainfall—मूसलाधार वर्षा Complicated—कम्पलीकेटड—not simple—जटिल। Vulnerable—वेल्नरेबल—liable to wound—घाव पहुँचाने वाली। Magnificent—मैग्नीफिसेन्ट—majestic—भव्य, वैभवपूर्ण। Swirling—स्वर्लिंग—

having whirling motion—चक्कर खाते हुए । Paraffin—पारा-फिन—a kind of fatty substance—एक प्रकार की चर्वी । Estimated—एस्टीमेटेड—judged the value of—मूल्यांकन किया गया ।

Page 130

Word Meanings:–Shanties–शन्टीज—huts—कुटिया । Shearing—शियरिंग—to cut with shears—तलवार से उतारना । Canneries—केनरीज । Squaws—स्क्वाज—American Indian women—अमेरिका के निवासी, हब्शी स्त्रियां । Sprawling—स्प्रालिंग spreading invreqularly—वेढगे तरीके से फैला हुआ । Spanked—स्पेन्कड—to strike on buttocks—चूतड़ पर थप्पड़ मारना । Tinkering—टिंकरिंग—mending—मरम्मत करना ।

Page 131

Word Meanings:—Improvised–इम्प्रोवाईज्ड—composed—बनाई हुई । Screwdriver—स्क्रूड्राईवर—पेचकश । Tweezers—टवीजर्स—pair of tongs—छोटी चीमटी Discarded—डिस्कारडेड—removed—हटाया हुआ । Corset—कोरसेट—bodies—चोली । Chuckled—चकल्ड—laughed in a suppressed manner—मुंह वन्द करके हंस कर । Briused—ब्रूज्ड—injured—चोट पाया हुआ । Locomotive–लोकोमोटिव–movable चलने योग्य ।

Page 132.

Word Meanings:- Fascinating–फैसिनेटिंग—charming—मोहित करने वाला । Encounter—एन्काउन्टर—meeting—मुठभेड़ । Carding mill—कार्डिंग मिल—मशीन—रुई धुनने वाला कारखाना ।

Pages 132—134

Henry disliked.........was the beginning.

Page 132

Word Meanings:—New fangled—न्यू फेन्गल्ड—newly made—नई बनाई गई । Chores—कोर्स—odd jobs—भद्दा

कार्य ; Foudry–फाउन्ड्री–a place—where metals are cast–ढलाई करने का कारखाना ।

Page 133

Word Meanings–Entrusting—सौंपना । Summoned–सम्मनड—called—बुलाया । Conceived—कन्सीव्ड—thought out—ग्रहण किया । Dies—डाईज–stamps—खींचे । Threshing machines—थ्रेशिंग मशीन्स—धुनने वाले यन्त्र ।

Page 134

Word Meanings:—Pretty—प्रेटी—beautiful–सुन्दर । Sensible–intelligent—समझदार ।

Pages 135—137

In April, 1888 Henry........................first road test.

Page 134

Word Meanings – Honeymoon—सुहाग मास ; Portable—पार्टेबल—movable—चलने योग्य ; Timber—टिम्बर—wood— लकडी ; Locomotive— लोकोमोटिव— movable engines—चलने योग्य इन्जिन ; Manufactured—मेनूफेक्चर्ड—made—बनाया गया ; Explosions—एक्सप्लोजन्स— violent out burst -- धड़ाके ; Inflamable— इन्फ्लेमेबल–easily set on fire—शीघ्र जल उठने योग्य ।

Page 135

Word Meanings:–Expanding एक्सपेंडिंग— spreading —फैलने वाली ; Spectacular—स्पेक्टेकूलर—worth seeing—देखने योग्य ; Bedsteads— बेडस्टीडस—frames for supporting bed—चारपाइयां (खाट) ; Vocational—वोकेस्नल—professional—व्यवसाय सम्बन्धी ।

Page 136

Word Meanings:–Moustache—मुस्टेच–मूंछ ; Lath–लेद—machine for turning metal—चक्रयन्त्र ; Innumera-

ble—इन्यूमरेबल— many— अनेकों ; Regulated—रेगूलेटेड—adjusted—क्रम में रखता था ; Horde of demons—band of demons—राक्षसों का झुन्ड ; Vibration—वाईब्रेशन shiver—कम्पन ; Resourcefulness–रिसोर्संफुलनैस—the state o having means of support—साधन पूर्णता ; Quicksand—क्वीक्सेन्ड—watery sanad—बलुआ पांकी ; Boilers—बोयलर्स—vessels in which anything is boiled—पतीलो, वाष्पित्र ।

Page 137

Word Meanings :—Wedges–वेजैज—pieces of metal—खूंटा, पच्चड , Ingenious—इन्जीनियस—skilful—चतुर ; Characteristic—करेक्टरिस्टिक typical—विलक्षण ; Wiry—वायरी—strong—मजबूत, पुष्ट ; Throttle—थ्रोटल—windpipe, throat—गला, नरेटी ; Flimsy—फिलमजी — frail—दुर्बल ; Tiller—टिलर—an appliance to steer—घुपाने का यंत्र ; Saddle —सेडल—seat काठी ; Countershaft—काउन्टरशेफ्ट—opposite long axle of a machine—मशीन का विरोधी लम्बा धुरा ; Gong—गोंग—bell—घन्टा ।

Pages 138-140

This car was..............................was built.

Page 138

Word Meanings:— Explosions—एक्स्प्लोजंस—violent—outbursts—विस्फोट; Demonstrated—डेमोन्स्ट्रेटड—exhibited—प्रदर्शित किया; Automobile—ओटोमोबाइल—movable—स्वतः चलने वाली; Ridculous—रिडिकुलस—worthy of making fun—हास्यप्रद ।

Page 139

Word Meanings:—In anticipation of—पहले से ही अनुमान लगाना ; Antiquated—ऐंटीक्वेटेड—obsolete—पुराने ढंग का ; Symbolic—सिम्बोलिक—related with symol—प्रतीक रूप; Veteran—वेटेरन—highly experienced—अत्यंत अनुभवी; Debris—डेबरीस—refuse—मलवा; Thoroughfare—

थीरोफेयर --road—सड़क ; Contraption—कन्ट्रेप्सन—invention—आविष्कार ; Conblestones—कॉबलस्टोन्स—rounded stones used in paving—फर्श के पत्थर ; Belching—बेल्चिग—uttering great noise—गरजना ; Spluttering—स्प्लटरिंग—bustle—कोलाहल ।

Page 140

Word Meanings :—Metropolis—मेट्रोपोलिस—capital राजधानी ; Stowed—स्टोड—placed—रख दिया ; Reflected-रेफ्लेक्टेड—thought—सोचा ; Crackers—क्रेकर्स—insane persons—झक्की व्यक्ति ; Chuckled—चक्ल्ड— aughed in a suppressed manner—दवे रूप में हंसना ।

Pages 141—144

Soon Henry Ford's automobile......in the country.

Word Meanings:—Cheering— चियरिंग—happy—प्रसन्न ; Jeering—जियरिंग—mocking—उपहास उड़ाते हुये । Solder—सोल्डर—a fusible alloy used for joining metals—धातु जोड़ने का टांका ; Primitive—प्रिमिटिव—old—पुराना ; Sparking plug—स्पार्किंग प्लग—an appliance for generating electric sposles—विजली की चिंगारी निकालने का यंत्र ; Monster—मोंसटर—devil—राक्षस ; Deliberately—डेलीबरेटली—knowingly—जान बूझ कर ; Infecting—इंफेक्टिंग—making—agreeable—सहमत बनना ।

Word Meanings :—Shoddy—शोडी—worthless—भ्रष्ट (व्यर्थ का) ; Flair—फ्लेयर—aptitude—प्रेरणा ; Publicity—पब्लिसिटी—advertising—विज्ञापन ; Mercury—मरकरी—पारा ; Hovered—होवर्ड—toitered—घूम रहा था ; Asphalt—आसफाल्ट—a mixture of coal-far sand—असफल—(डामर की सड़क) ; Wager—वेजर—stake—दांव लगाना ।

Word Meanings :—Hauled—हाल्ड-stopped—रोकना । Automobileer—ओटोमोबिलयर—driver of motor car—मोटर कार चालक ; Auto's—ओटोज—कार की ; Whew—ह्यू—denoting-surprise—आश्चर्य सूचक अव्यय ; Grazes—

ग्रेजेज—touches lightly—धीरे से छूता है ; Curbstones—कर्बस्टोन्स—stone placed edgeways—किनारों पर लगे पत्थर ।

Word Meanings :—Negotiate—नैगोशियेट—cross—पार करना ; Grandstand—ऊंचा मंच ।

Pages 144–148

Ford was a famous.........in the world.

Word Meanings :— To accomplish—टु अकम्पलिश—to achieve—प्राप्त करना । Persuading—परसुएडिंग—convincing—विश्वास दिलाना ।

Word Meanings :—Ambition — एम्बीसन—desire—इच्छा । Premises—प्रेमिसेज—building with its environs—इमारत तथा उसके साथ की भूमि ; Compactness—कम्पेक्टनैस—firmness—दृढ़ता ; Convenience—कन्वीनियेन्स—advantage—सुविधा ; Stumbling block—स्टम्बलिंग ब्लोक—obstacle—बाधा ; Shoddy—शोडी—frail—दुर्बलता ।

Word Meanings :— Prosecuted—प्रोस्क्यूटेड—legally punished—न्यायोचित दंड पाना ; Freight—फ्रेट—on hire—किराये की ; Annoyed—अनोयड—displeasent—अप्रसन्न थे । Primitive—प्रिमिटिव—old— पुराना ; Supercharger —सुपरचार्जर—big dish to put some quantity—बड़ी रकाबी ; Wind shield—विंड शील्ड—wind protecting—वायु से रक्षा करने वाली वस्तु ; Carburettor—कारबुरेटर—the chamber in an engine in which vapour is mixed with air—इंजन में का बक्स जिसमें वाष्प वायु से मिलती है ।

Word Meanings :—Was smashed—वाज स्मेशड—was broken—तोड़ दिया गया ; Procedures—प्रोस्डेर्स—methods—तरीके ; Aeronautics—एअरोनोटिक्स—the science of aeroplane—वायुयान विद्या ; Prairie—प्रेअरी—an extensive tredess trach of grass land—वृक्षरहित विशाल मैदान ।

Word Meanings :—Concrete—कन्क्रीट—composition of gravel, cement & c. बरी के चूने से बना हुआ मसाला ; Conveyor bel method-प्रतिपादक पट्टी का तरीका ; Extravaga-

nce—एक्स्ट्रोवेगेंस—excessive things—अमितव्ययता ; Eliminated—एलिमिनेटेड—omitted—त्यागना ; Countered—opposed—विरोध किया गया ; Accusations—एक्यूजेसंस—charges of offence—दोष ; Flimsy contraption—फिलमजी कंट्रेप्सन—weak invention – क्षीण आविष्कार ; Christened—क्राईस्चन्ड—named–नाम रख दिया।

Pages 148–152

To our eyes...... ....the accident happened.

Pege 148

Word Meanings:—Sleek—स्लीक–smooth—चिकनी ; Ridiculous—रिडिक्यूलस—funny–हास्यास्पद ; Hood—हुड—cover—ढक्कन ; Canvas–कानवास–cloth of hemp–किरमिच ; Scantty—स्केन्टी—little—थोड़ा।

Page 149

Word Meanings— Strapped —— स्ट्रैप्ड— tied—बांधा हुआ ; Scratch—स्क्रेच–खुरचट ; Trail—ट्रेल—beathen path—सामान्य पथ ; Sturdiest—स्टर्डियेस्ट—strongest–सबसे मजबूत ; Swamps—दलदल ; Shovellers —शोवेलर्स—those who remove something with shovel—फावड़ों से हटाने वाले ; Surmounting – सरमाउन्टिंग—overcome—पार करना ; Incredible—इन्क्रेडिबल–difficult to behave—अविश्वसनीय।

Page 150

Word Meanings:—Stride–स्ट्राइड–long step–फलांग ; Gearing—गीयरिंग—equipped—स मिग्री जुटा रहा था ; Violating-व्योलेटिंग—breaking–उल्लंघन करते रहना ; Rocketed—रोकटेड—mounted high—ऊपर उठ गए ; Adjouning- मिला हुआ ; Constant—कांसटेन्ट—continuous–निरंतर।

Page 151

Word Meanings :—Pun—पन—humorous use of words having several meanings, a play on words–श्लेष ; Wisecracks–वाईजक्रेक्स–learned sayings—बुद्धिमान प्रहिहास ; Wringer—रिंगर— ऐंठने वाला ; Cranking—क्रेन्किंग—dutting

in circular motion--चारों ओर घुमाना ; Haphazard--हाफजर्ड --random---बेढंगा, बिना तरकीब ; Odds and ends-- ओडस एण्ड एण्डस--remaining parts --अवशिष्ट, बचे पदार्थ ; Scrap --स्क्राप --small pieces---टुकड़े ।

Pages 152—154

What was the.................in the world.

Page 152

Word Meanings:-Incredeble-इंक्रेडिबल-great-महान; Magneto—मेग्नटो-a generator of electric ignition—बिजली की शक्ति उत्पन्न करने का यंत्र ; Operation—ओपरेशन—work, action --क्रिया ; Staggering स्टेगरिंग-toltering-- चक्कर ; Crane—क्रेन—a machine for lifting heavy weights—भारी बोझ उठाने वाला यन्त्र ; Compensate—कम्पेन्सेट— to make up for --पूरा करना ।

Page 153

Word Meanings :—Shifts—शिफ्टस-turning—चक्र ; Refund—रिफन्ड-to return back-लौटा देना ; Financial—फाईनेन्सिअल-related to finance --आर्थिक; Juggling—जगलिंग —tricks, cheat—कपट ; Stunt—स्टंट-display-दिखावा ; Philosophy--फिलोसोफी--दर्शन शास्त्र ; Bubble— बबल -- बुलबुला ।

Pages 154—155

When the first world..................trade unions.

Page 154

Word Meanings:— Crest-क्रेस्ट —top — शिखर । Trenches—ट्रेन्चेज—ditches – खाइयां । Chartered—चार्टर्ड-granted by charter—शासन पत्र प्राप्त । Cease—fire—सीज फायर—stop war—युद्ध विराम । Drenched—ड्रेन्चड—became completely wet—तर हो गया था । Bitterness—बिटरनैस—the quality of becoming—bitter—कठोरता, तीखापन । Amassing—एमासिंग । Connecting-एकत्रित करना । Gigantic —जाइगांटिक— mighty—विशाल ।

Page 155

Word Meanings:—Ensnared–ऐन्सनयर्ड—entrapped
-- जाल में फंस गया । Intrigues—इन्ट्रीग्स—ploto—षडयन्त्रों।
Slickers—स्लिकर्स—smoth tongue—मृदुभाषी ।

Pages 155–158

Only once the Ford...... average American mind.

Page 155

Word Meanings:—Refinement—रिफाइन्मेंट—fineness of taste—शुद्धता । Estimated—एस्टीमेटड—calculated —हिसाव लगाया गया। Altered—आल्टर्ड— changed-परिवर्तित कर दिये। Radically — रडीकली — originally — भौतिक रूप से । Sturdy—स्टर्डी—strong—मजबूत । Plant—प्लांट—machinery—यन्त्र । Ambulances—अम्बूलेन्सेज—convevances for sick persons—बीमारों को ले जाने वाली मोटर गाड़ियां । Vans—वान्स—carriage for luggage—सामान ले जाने वाली मोटर गाड़ियां । Tractors—ट्रेक्टर्स—motor ploughs—इंजन से चलने वाले हल ।

Page 156.

Word Meanings:—Industrialisation— इन्डस्ट्रिलाईजेसन – the act of making industrial— औद्योगीकरण । Mechanization—मेकेनाइजेसन—the act of making mechanical—यन्त्रीकरण । Admiration-आडमाइरेसन-high esteem —प्रशंसा । Dismantled-डिस्मेन्टल्ड-deprived of– हटा दिया । Reassembled—रिअसेम्वल्ड—assembled again—पुनः एकत्रित किया । Smithy – स्मिथी—the workshop of a blaksmith—लोहार का कारखाना । Museum — म्यूजिअम—अजायवघर । Haphazard—हफाजर्ड—random – इधर उधर का, क्रमहीन । Cultur—कलचर—development—उन्नति ।

Pages 156 – 157

When the second word..........a desert island.

Page 156

Word Meanings:— Complex— कम्पलेक्स— complicated—जटिल, मिश्रित । Giant—जियान्ट—big—बड़े

Page 157.

Word Meanings :—Switched—स्विच्ड—started—प्रारम्भ किया। Tanks—टेन्क्स—armoured cars—सब सामान युक्त फौजी, मोटर गाड़ियां। Landscape—लैंडस्केप—natural scene—प्राकृतिक दृश्य। Spearhead—स्पीयरहेड—the iron point of a spear—भाले का नुकीला विन्दु।

Questions And Answers

Q. 1. What do you know about the childhood of Henry Ford ?

हेनरी फोर्ड के बचपन के वारे में तुम क्या जानते हो ?

Answer:—

Henry Ford was born in one of long cabins near the Detriot River in Springwells Township in 1863. It was a calm and peaceful village. At the age of seven and half he was admitted in Springwells School but he remained an ordinary boy in his student life.

But Henry Ford was deeply interested in all kinds of mechanical things. His first hobby was to repair clocks and watches. Soon he became an expert hand in mending them and became quite famous for it. Persons of his village and neighbouring localities began to come to him with their clocks and watches. He always repaired them without any charges.

Once he took the sawmill to pieces on a holiday to mark its functioning. But Henry Ford was greatly impressed by a steam locomotive while going to the carding mill. He built a steam engine model on the same lines in his attic rooms on farmhouse. He was only twelve years old at this occasion. His childhood was mostly passed in repairing watches and studying mechanical engineers with great enthusiasm.

Q. 2. Why did Henry Ford run away from his father's farm and how did he come back from Detriot ?

हेनरी फोर्ड अपने पिता के खेतों से क्यों भाग गया और वह किस प्रकार फिर डेट्रियोट से वापिस आया ?

Answer:—

Henry Ford had a great interest in mechanican things. He did not like the jobs he had to do on his father's farm. He continued to do such jobs till his mother survived. But as she died, Henry decided to become a mechanic in Detriot. His father did not allow him to make this change. So at the age of sixteen, he ran away from his father's farm.

In Detriot, he served at different shops. First he was employed by a machinists shop. Then he moved to work with the firm of James Flowen Brothers. But the wages were limited and he had to do extra work. Anyhow, he began to clean watches in jewellery store. Soon, he was engaged by the same shop to repair their watches.

Meanwhile, Henry Ford's father came to know about him. He immediately asked him to come back to the farm. He pointed that new threshing-machines were brought on from and it would serve to continue his interest in machines. Henry Ford welcomes this idea returned to his fathers farm from Detriot.

Q. 3. Why did Henry Ford leave his new house with his wife Clara ?

हेनरी फोर्ड ने सपत्नीक अपना नया मकान क्यों छोड़ दिया था ?

Answer:—

Henry Ford had came back from Detr[illegible] on the

persuasion of his father. Now, he began to top most in the social activities of his village. He was quite fond of country dances. Once he was a pretty young girl Clara Bryant and fell in love with her which resulted, in their marriage in April 1888.

His father gave forty acres of land to him in Dearborn as a wedding present. Henry cleared the land and built his own new house. Both of them began to live happily and Henry started his experiments with a farm locomotive and steam rod—carriage. On another occasion he saw a machine to pump ginger–beer into bottles in Detriot. He watched it engerly for an hour.

On his return, he told everything to his wife. Henry Ford added that Detriot was only suitable place to materialise his ideas. He needed proper tools, mechanics and a workroom which only Detriot could provide to him. It deeply impressed Clara who agreed to move to the city with her husband. Both of them left their happy home in 1891 to Detriot.

Q. 4. What did Henry Ford do on reaching Detriot along with his wife ?

हेनरी फोर्ड ने डेट्रियोट में पत्नी सहित पहुँच कर क्या किया ?

Answer:—

Henry ford left for Detriot in 1891 along with his wife. He became a night—shift engineer in an electric power station. He had to work hard throughout night from 6 P. M. to 6 A. M. But the pay was not sufficient to meet his expenses. So he began to teach in the Y. M. C. A. vocational school. Some times he repaired watches to add something to his income.

First two years in Detriot passed in this way. But soon his position and income improved. He had risen to the position of chief engineer. He begot a son named Edsel and moved into a big house in a good locality. There was a brick shed in the back Ford of his new house where he built his first petrol engine. Again Henry Ford began to lead a happy life in the company of his beloved wife and son in Detriot.

Q. 5. How did the first Ford motor-car appear on the streets of Detriot ?

डेट्रियोट की सड़कों पर प्रथम फोर्ड मोटर-कार कैसे प्रगट हुई थीं।

Answer:—

Henry Ford settled in a big house in Detriot. He was chief Engineer on a electric power station. During his spare time he used to work to make a perrol engine. He adapted the main parts of his engine from different objects. A rough home-made engine was completed within a week. As he started it, the engine began to roar. Now Henry Ford became quite sure to make petrol engine which would drive a car on the streets.

With certain improvements in mind. Henry began the work on another engine. It was completed within two years. He started it again and found quite satisfactory. Now there was the necessity to make a car on which it could be mounted. So he did with four bicycle wheels and a seat. He placed the engine between the rear wheels. Two speeds were given to it through a lever. In order to warn people of i's approach on the streets, Ford arranged an alarm gong. Thus, the first Ford motor car was ready to move on the streets

of Detriot in May 1896. Henry Ford took it out on the streets and surprised the people with its odd appearance.

Q. 6. Why did Henry Ford make a hole in the wall of his shed and with what result ?

हेनरी फोर्ड ने अपने ओसारा की दीवाल में छेद क्यों किया था और क्या परिणाम निकला ?

Answer:—

Henry Ford had built a motor-car in the shed of his house. When it was complete in 1896, he wanted to bring it out on street for road test. But he had ignored the fact that the door of shed was too small to let it pass. Henry Ford at once made a big hole in the wall of the shed with an axe. He took out his motor car through it on the streets of Detriot and drove it into the open air.

After his successful drive he returned his home and placed the motor car in the shed. Just then, the landlord came to take his rent. He saw a big hole in the wall and became furious. He asked Henry Ford to explain its reason which he told readily and assured him to get it repaired soon.

The landlord took a keen interest in his motor car. He asked about its working and told him to fix a pair of swinging doors in that hole so that he could drive his motor car, as many times as he liked. It was a sound advice and the first set of garage doors made its appearance in America.

Q. 7. How did Ford motor cars become so popular in America ?

अमेरिका में फोर्ड मोटर कार इतनी लोकप्रिय कैसे हो गई ?

Ansewr:—

Henry Ford had built his first motor in 1896. He took it out on streets of Detriot in May of the same year. It was first petrol driven carriage even seen by the people of America. It occasionally stopped on the streets of Detriot and moved further only when necessary repains were done on the spot. He also introduced the first cooling system in his motor car.

Now, Henry Ford began to think about the mass production of his cars. He succeeded to persuade some business to form a new 'Detriot Automobile Company' which had money to make ten cars. But even one car could not be made complete with this amount and his partners left him. Henry Ford did not loose heart. He renamed the company as 'Cadillac Automobile Company' and took a work shop.

Henry Ford had a good idea of publicity. When his motor car was complete, he invited a Detriot reporter to take a trip with him in the car. He described the great pleasures of such trip with huge headlines in his newspaper. It attracted the attention of Americans to a great extent.

Meanwhile, Henry Ford took part in The World's championship and first Big Automobile Race outside Detriot. It was a great event and Ford defeated the most famous American. motorist Winton in it. When persons hailed him, he pointed that it was the finer quality of his car that had made him to win the race. Thus these different ways of propaganda and the quality of his motor cars made them much popular in America.

Q. 8. What did the Detriot reporter describe about the trip in motor car with Henry Ford ?—

डेट्रियोट संवाददाता ने हेनरी फोर्ड के साथ मोटर-कार में की हुई यात्रा के बारे में क्या वर्णन किया ?

Answer:—

Henry Ford formed a new Company named 'Cadillnc Automobile Company' in Detriot. He completed the first motor car in 1900 and invited a Detriot reporter to take a trip with him in it. The reporter enjoyed the trip with great pleasure and gave a fascinating account of it in his newspaper.

He described that the motor car ran swiftly at a speed of 23 m. p. h. over the rough country road. The starty system was quite sound. Bracks were strong and brought the machine to a standstill as soon as they were applied. Even the reporter felt nervous on running so fast in his motor car. Thus, he disclosed to the public about the fine quality of Ford's motor car. Henry Ford was also an expert driver. He was able to cross the sharp curves with the grace and ease.

Q. 9. How did Ford introduce Model T to people ?

हेनरी फोर्ड ने माडल टी को जनता के मध्य कैसे परिचित किया।

Answer:—

Ford motor-car had became quite famous in the world. Several new modes B. C. D. and so many other were brought to the market. All of them were sold out in a short period. The mass production of such motor-cars had started in America.

Now, Henry Ford decided to make another Model T

which was going to dominate the market for coming fifteen years. He introduced it to the general public in a most spectacular manner. A contrast was arranged to travel the four thousand miles across the North to American continent. It was a coast to coast affair.

The path which was decided for the contest was full of great difficulties and only strong motor cars could have survived it. Five cars took part. They passed through mountain tracks, swompy roads and snow ways. The competition was won after a journey of twenty days by a Model T motor car. At once it won the hearts of Americans and became the most popular model everbrought to the market for sell.

Q 10. What was the greatest hindrance in the way of Henry Ford's production of motor cars and how did he over came it ?

हेनरी फोर्ड के मोटर कारों के उत्पादन के पथ में सबसे बड़ी बाधा क्या थी और उसने किस प्रकार उसे दूर किया ?

Answer:—

The ford factory began to work in 1903 in Detriot. After few weeks a great hindrance appeared in the way of mass production of motor-cars by Henry Ford A lawyer Mr George B. Selden had applied for a patent for a motor-car driven by petrol engine. The patent was granted to him in 1895. Selden, along with some other companies, had formed a 'trust' to heep the new competiters out of the market. On every motor car sold in the United States, a license fee was paid to him. He had become one of the richest man in America.

When Ford company started to produce motor-cars the trust companies filled a legal sint against it. Five years passed and the production of Ford motor cars increased repidly. Several models were brought to the market. The production had turned four times more than any factory in the world. Meanwhile Henry Ford declared to build Model T with less price and more amenities.

The trust companies became more active and soon the court decision was announced in favour of the Selden patent. Henry Ford at once apporached the united states court of Appeal which turned down the Trust clain in January 1911; Henry Ford had won the greatest hindrance in his way to produce motor-car. Now, he was free to capture the market in his own way.

Q. 11. Why was Model T called as, Tin Lizzie and what jokes were common about it among the general public ?

माडल टी को 'टिन लिजी' क्यों कहा गया था और साधारण जनता में इसके बारे में क्या हास्य प्रचलित थे ?

Answer :—

Henry Ford had brought several models in the market. After his Model N. he decided to build cheaper motor-cars. He announced that Model T would be produce on mass scale with a new light steel alloy to reduce its weight and to give more strength to it. Its price would be much less and more miles would be covered in one gallon of petrol. As these claims were made before Model T appeared in the market Ford's competitors began to call it Tin Lizzie. Their intention was to make the fun of the New-Model.

But Henry Ford had a very practical mind. He introduced Model T in a novel manner to the general public. He also encouraged the spreading of the hundreds of jokes about Tin Lizzie' which proved a great propaganda stunt. These jokes became very common among the general public.

As there were no electric storters in moter cars in these days, a wise joke was the night out—"Mother got all her exercise by turning the handle of clothes wringer but her daughter develops her muscles by cranking her Ford."

Another such joke refers to Henry Ford who was driving across the countryside in a Model T 'Tin Lizzie.' As the car broke down, took the help of a farmer and offered five dollars to him for his service. But he refused to accept such a big amount for a little of work. Henry Ford assured him that he had enough money to his account but the farmer replied 'you can't fool me, mister. If you were all that rich you would not be driving one of those Tin Lizzies.'

Really, these jokes became so popular and current that 'Tin Lizzie' turned to be the most favourite motor-car of the people. Inspite of becoming a laughing stock of motorists Model T became their craze.

Q. 12. How did Henry Ford succeed to produce motor-cars at cheap price and with great speed ?

हेनरी फोर्ड किस प्रकार सस्ते दामों तथा तीव्र गति से मोटर कारों को उत्पादन करने में सफल हुआ ।

Answer:—

The Ford company started to produce motor cars

in 1903. The production grew speedily and a new big factory was built in 1908 outside the Detriot in industrial district. It was one fifth of a mile in length with his conveyor belt method of mass production. An endless belt moved the various parts along a line of workmen who made one or two operations. It proved to be the most practical and time—saving method. Now workers did not waste their time to search and bring things. Work pieces moved along to them automatically and they did their part of the work at their own seats. The Ford company had moving belts, part forms and cranes every where.

The result of this assembly line system was that much of the time was saved and the speed of work increased. The factory worked for twenty—four hours a day and the cost of production was much reduced. All these factors helped Henry Ford to build motor-cars so cheaply and speedily in his factory.

Q. 13. What did Henry Ford do to improve the standard of living of Americans ?

हेनरी फोर्ड ने अमेरिका निवासियों के रहन सहन के स्तर को ऊंचा उठाने के लिए क्या किया था ?

Answer :—

Henry Ford's philosophy was to enable every man to make enough money so that he may own a home, a piece of land and a car. He gave a practical shape to this idea by offering certain extraordinary facilities for the workers of the Ford factory.

He reduced working hours from nine to eight in 1914 and at the same time doubled the wages of the workers factory. The factory continued to work for

twenty four hours, day and night and three shifts were introduced. Beside it he also offered a very attractive condition for his buyers. He announced that a sum of fifty dollars would be refunded to every of them it a certain member of his motor cars was sold in a particular year.

These attractive terms in his company brought a definite change in the standard of living of the people. All over the united states, people demanded more wages from their respective houses and invested the money in purchasing cars and other necessary things in life.

Q. 14. How did the Ford factory become the largest in the world ?

फोर्ड कारखाना संसार का सबसे बड़ा कारखाना कैसे बन गया ?

Answer:—

The Ford factory was established in 1903 outside the Detriot industrial belt with in five years it began to produce four times more than any of the company was doing in the world. Tin Lizzie became the most popular and widdy used car. Henry Ford had introduced the convey or belt method or the assembly time system in his company. There were moving belts, platforms and crames everywhere in the factory. People waited at a particular place and different work- pieces came to them moving an endless flow. It was a time saving device and added wings to the mass production of motor cars.

In 1927, the whole Ford plant was replaced with lates and improved machines. More than 43,000 machine tools were altered or replaced. Even 'Tin- Lizzie'

gave place to a new model which showed the more refined taste of the people all over the world. Besides the standard car, other types of vehicles as ambulances, vans, tranks and tractors were built by the Ford factory. They were widely in use almost in every country of the world.

Gradually, the Ford factory became in largest in the world. The second world war began and at the end of 1941, it was producing a large variety of the war fare machines. Besides jeeps aeroplanes and ships, the Ford factory was actively turning out giant bombers and large tanks. All this single success of Henry Ford's production made his factory the largest in the world and he became the richest man ever lived.

Q. 15. What did happen when Henry Ford was walking in his garden with his little great grandson ?

जब हेनरी अपने छोटे परपोते के साथ अपने उद्यान (बाग) में घूम रहा था तो क्या घटना हुई ?

Answer:—

Henry Ford retired from the scene at the age of eighty one. He began to live in his palatial building in Dearborn. His only son Edsel had died at the age of fifty and the management of the Ford factory was taken over by the grandson Henry Ford II.

One day in 1947, he was walking through his beautiful gardens with wise little great-grandson. The boy had something in his hand. He dropped it carelessly on the ground and moved father. Henry Ford marked it. He asked the boy about the thing which fallen in the grass. He told that it was just a penny without saying anything it back.

Both of them continued to walk. Then suddenly the boy asked if his great grandfather was richest man on earth. Henry Ford agreed to it. The boy at once asked why he had stopped to look for his penny which was such a little thing for him. Henry Ford replied, that all paper money in the world was useless if one finds him on a desert island. But a penny would be of much value as it is something solid in itself. None knows when such a condition might come in one's life. Thus, he advised his little great grandson to be careful even about little things which might prove the greatest help at some needy hours.

Q. 16. Describe the death scene of Henry Ford ?

हेनरी फोर्ड की मृत्यु के समय का वर्णन करो ?

Answer:—

Henry Ford retired from his work at the age of eighty one after handing over his vast industrial empire to his grandson, Henry Ford II. One day in April 1947 a heavy rain poweed in the city of Detriot. Old Henry Ford was living in those days in his polatical build in Dearborn. It was gully equpped with modern things and luxuries.

The rain became so merciless that the whole village was flooded with water. People and vehicles unable to pass through roads. The electricity had fenled. Telephone and central heating system did not work at all. At such a moment, Henry Ford was lying sick in a ball and his wife was sitting by his side. Servants of the house were trying to warm the room with fire.. Old Henry Ford, the richest on earth, wanted to see his grandson. But all communications had been cut

by the rain. The house was totally robbed of its all modern comforts. Under such conditions Henry Ford died in Dearborn at the age of eighty-three.

Q. 17. Give a short account of Henry Ford's character?

हेनरी फोर्ड के चरित्र का संक्षिप्त वर्णन करो ?

Answer:—

Henry Ford was one of the greatest self made persons of the world. He was born in a farmer's family in 1803 in Spring wells Township. He had a great interest in all kinds of michanical things. He had earned a great name as a watch repairer in his childhood,

Henry Ford was quite sure that he could do his best only when dealing with machines. So he left his village with his wife and began to live in Detriot as an Engineer employed in a power house. He did his work with great skill and sinserily and soon won the admiration of all those persons who came in his contact.

He was a man of firm determination and vast for-esight. He was never overpowerd by-opposing forces. The Ford company began to make motor-cars and Trust moved to take legal action against him. But the final victory came to Henry Ford. His arguments proved quite reasonable solid.

As a leading industrialist of America. Henry Ford was very considerate towards his staff and workers. He wanted to pay them liberally so that they might live with a standard which was so essential for the growing generation. He doubled their wages, reduced the working hours and gave all the facilities which could make them proud of their boss.

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Henry Ford was never proud of his name and wealth. One day, on dropping a penny, he told his great grandson to be careful even about such little coin because none knows the ways of life. He always helped those who were needy and helpless.

Henry Ford was a fine and resourceful sportsman. He defeated the best driver of America in a motor race competition. On another occasion, he invited a Detriot reporter and gave him a wonderful riding, on his newly made motorcar. Nodoubt, he quite enthusiastic about such sports.

Besides it, Henry Ford was a light-hearted and successful businessman. He had introduced the assembly line system in his factory. The production of motor cars was mounting high every year. His rivals had tried to spread diffreent types of funny stories about his Model T. They called it 'Tin Lizzie.'. But Henry Ford himself helped to spread such intelligent and meaningful stories which actually served as a great means of propganda for his own production. He was a man who could take the best out of worst.

In fact, Henry Ford was a man of action and firm determination. He always acted on his own ideas. His organising power was wonderful and his colleques always admired his sincerity towards his work. He was kind, considerate and peace loving human being. Henry Ford put the world on wheels and helped a lot raise the standard of living all over the land, Really, inspite of being the richest man on earth. Henry Ford was full with the milk of human kindness and love.

Lesson 7

THE MAN WHO MADE US SEE THROUGH NIGHT, FOG AND CLOUD

By

(Sir Robert Watson Watt.)

Summary

Sir Robert Watson. Watt is the son of a scots carpenter in the little town of Brechin. Angus. Beling youngest son in the family, he was favourite of all, He won several scholarships and after his University education became a professor of physics. Soon afterwards he entered the Meteorologichal office of the Royal Aircraft Establishment in Farnborough.

Robert Watson-Watt started the Work with atmospherics. Along with wireless waves, different-types of noises were heard and he wanted to find facts about them. They are all electric phenomena. He examined the field of direction finding 'by radio'. After it, he tried another system used to discover the spot from where certain wireless signals came. He also collected lightning flashes. He was totally given to search weather and specially atmospherics.

Watson-Watt became the incharge of the radio research station at Slough in 1927. He took long trips and made an intense research in his field. One day whitehall asked him about the possibilities of death ray. Though he was not much in favour of this idea, yet he moved to wards radio-location of aircraft. On 26 February 1935, first successful test was done. In order to keep it a secret from enemies, a small team

known as Boffins' decided to set up headquarters on the Suffolk coast near Orfordness.

The new weapon was developed and five radio locatoin stations were set up on the east cast of Eng-land in December 1935. It's working depended on sen-ding outs short burst of very powerful wireless energy on very short wavelengths. The time of 'reflected' bursts gave the exact distance of the p'ane from the location station, Then flying radar stations were used which enabled to trace enemy ships on sea.

It proved a great discovery during the war period the Second-World war started on 3 september 1939. By now, a chain of stations was ready for action on east coast of England. Boffins played a very impor-tant part to protect the countay from enemies. Robert Wattson Watt had become very popular in Defence Department. Germany's V'boats had lost their terror and the tide of the war turned in their favour.

Thus, Sir Robert Wattson Watt discovered the radar and served the nation bravely in the time of war. Then he gave up Government posts in 1949 and be-came the Governing Director of his own firm. Radar has become a very useful and popular means even in peace time applications. It is put to various uses to serve the mankind.

पाठ का हिन्दी में संक्षेप

श्री रोवर्ट वाटसन वाट स्कौटलैंड के एक बढ़ई के सुपुत्र थे। वह अपने परिवार में सबसे छोटे पुत्र होने के कारण अत्यधिक लाड़पन में रहे थे। उन्होंने अपने विद्यार्थी जीवन में अनेकों छात्रवृत्तियाँ प्राप्त कीं तथा विश्वविद्यालय में अध्ययन समाप्त करने के उपरान्त भौतिकी की प्राध्यापक के पद पर नियुक्त हुये। कुछ समय उपरान्त ही उन्हें

फार्नबोरो में राजकीय वायुयान विभाग के अन्तरिक्ष कार्यालय में नियुक्ति मिल गई।

रोवर्ट वाटसन वाट ने वायुमन्डल संबंधी क्षेत्र में कार्य करना प्रारम्भ कर दिया। बेतार तरंगों के साथ अनेकों प्रकार की आवाजें सुनाई पड़ती थीं और वाटसन उनके बारे में तथ्य एकत्रित करना चाहते थे। वे सब अकाश में विद्युत संबंधी पदार्थ थे। उन्होंने रेडियों के द्वारा 'दिशा ज्ञात' करने वाले परीक्षण भी किये। इसके उपरांत एक दूसरी विधि भी अपनाई जिससे उस स्थान का पता चल जाता था जहां से बेतार तरंगों को प्रसारित किया जाता था। उन्होंने विद्युति दमक के बारे में भी विषय सामिग्री एकत्रित की। उन्होंने स्वयं को पूर्णरूप से ऋतुओं तथा विशेष रूप से वायुमन्डल सम्बन्धी खोजों में लगा दिया था।

१९२७ में श्री राबर्ट वाटसन वाट स्लीव में रेडियो अन्वेषण केन्द्र के अध्यक्ष नियुक्त हुए। उन्होंने बड़ी दूर दूर तक यात्रायें कीं तथा अनेकों प्रकार की खोजें करके तथ्य जुटाये। एक दिन व्हाइटहाल से 'मृत्यु किरणों' की संभावना के बारे में पूछा गया। यद्यपि वह इस प्रकार की किरणों के बारे में पता लगाने के पक्ष में नहीं थे पर उन्होंने अपना ध्यान रेडियो द्वारा वायुयान का स्थान पता लगा लेने की ओर देना प्रारंभ कर दिया। १९३५ की २६ फरवरी को प्रथम सफल परीक्षण पूर्ण किया गया। इसे शत्रुओं से एक रहस्य बनाए रखने के हेतु और फार्डनैंस के समीप सुदूर स्फोल्क समुद्री किनारे पर एक छोटे दल, ने जो 'वोफिन्स' के नाम से प्रख्यात हो गया था, अपना प्रधान कार्यालय स्थापित किया।

इस नवीन अस्त्र को सुधारा गया तथा १९३५ में दिसम्बर माह में इङ्गलैंड के पूर्वीय समुद्री तट पर पांच रेडियो स्थापना केन्द्र बनाये गये। इनका कार्य इस तथ्य पर निर्भर करता है कि अत्यन्त शक्ति-

शाली वेतार शक्ति का अत्यन्त लघु तरंग—दैर्ध्य द्वारा लघु दमकों को बाहर भेजा जाता है। फिर उनमें पुनः लौट कर आने के समय द्वारा उस स्थल से वायुयान की दूरी का हिसाब लगा लिया जाता है इसके बाद उड़न रडर केन्द्र बनाये गए जो शत्रु के जहाजों का पता समुद्र पर देते थे।

यह एक अत्यन्त महत्वपूर्ण खोज सिद्ध हुई। युद्ध अवधि में इसने शत्रु को परास्त करने में बहुत सहायता दी। द्वितीय महायुद्ध तीन सितम्बर १९३९ को प्रारंभ हुआ। अब तक इङ्गलैंड के पूर्वीय समुद्री तट पर कार्य करने हेतु रडर केन्द्रों की एक श्रंखला तैयार हो चुकी थी बोफिन्स ने देश की शत्रुओं से रक्षा करने में अत्यन्त महत्वपूर्ण भाग लिया। रोबर्ट वाटसन वाट सुरक्षा विभाग में बहुत लोकप्रिय हो चुका था परन्तु जन–साधारण को इसके बारे में कुछ भी मालूम नहीं था। जर्मनी की यू नौकाओं का भय अब प्रायः समाप्त हो चुका था तथा युद्ध का पासा ही पलटने लगा था।

इस प्रकार राबर्ट वाटसन वाट ने रडर की खोज करके युद्ध के समय देश की वीरता से सहायता की। फिर १९४१ में सात व नवें जन्म दिवस पर उन्होंने अधिकांश सरकारी पद त्याग दिये और अपनी फर्म में प्रशासकीय निर्देशक रूप में कार्य करने लगे। रडर शक्ति काल में भी अत्यंत लाभप्रद सिद्ध हुआ और मानवता की सेवा करने का एक निश्चित तथा अद्वितीय साधन बन गया।

The Man who made us see through night.
fog and cloud,

Pages 158–159

'I am sorry if..................of his life'

Page 158

Word Meanings:—Chubby—चबी—having round face—गोल चेहरे वाला। Prig—प्रिग—conceited-दम्भी व्यक्ति।

Swot—स्वोट—ardent student—परिश्रमी विद्यार्थी। Confirmed—कन्फर्मड—ratified—स्थिर कर दिया। Resistence—रेसिस्टेंज—hindrance—प्रतिरोध। Carpenter—कारपेन्टर—बढ़ई। Sheltered—शेल्टर्ड—protected—रक्षा किया गया। Artisan—आर्टीजन—handicraftsman—शिल्पी—Journalism—जर्नलिज्म—the keeping of journal—पत्रिका प्रकाशन। Bursaries—बरसरीज—allowance—भत्ता।

Page 159

Word Meanings:—Meteorological office—मेट्रियोलोजीकल आफिस—अन्तरिक्ष कार्यालय। Weand—वीन्ड—deprived from the object of desire—विमुख हो गया।

Pages 159—161

When during the first.................................with atmospherics.

Page 159

Word Meanings:—Crackling—क्रेक्लिंग—to make a cracking sound—कड़ाके का शब्द। Crashing—क्रेसिंग—violent sound—शोरगुल। Hising—हिशिंग—sharp sound of hiss—फुफकारना। Sizzling—सिज्लिंग—making sputering noise—छन छन का शब्द करना। Rolling—रोलिंग—revolving—लुढ़कते हुये। Grinding—ग्रिन्डिग—deforming—रूप बिगाड़ते हुए। Blotting—ब्लोटिंग—drying—सुखाते हुए। Faint—फेन्ट—weak—दुर्बल। Atmospherics—एटमोस्फेरिक्स—dependent on atmospherics—वायु मंडल सम्बन्धी, (आकाश—सम्बन्धी)। Solar system—the sun and heavenly bodies—सूर्य मण्डल। Galaxy—गेलेक्सी—milky way—आकाश गंगा। Thunderstorms—थन्डरस्टोर्म्स—storms accompanied by thunder and lightning—बिजली तथा गड़गड़ाहट के साथ आने वाली आंधी। Phenomena—फेनोमना—occurance—गोचर पदार्थ। Impulses—इम्पल्सैज—आवेगा।

Page 160

Word Meanings:—Lightning flashes—लाइटनिंग—

फ्लेशेज—electric flash in the clouds—विद्युति दमक। Observer—ओब्जर्व—one who observes—प्रत्यक्ष। Syllables—सिलैब्ल्स—combination of letters uttered by one articulation—अनेक अक्षरों का समुदाय जो एक सांस में बोला जावे।

Page 161

Word Meanings:—Cruiser—क्रूजर—warship—युद्धपोत। Handyman—man ready to hand—समीपवर्ती व्यक्ति। Ferocious—फेरोसस—fierce—भयंकर।

Pages 161-164

In 1927, at the age of..................reallygoing on.

Page 161

Word Meanings:—Research—रिसर्च—अनुसन्धानिक। Prevent—प्रवेन्ट—check—रोकना।

Word Meanings:—Ionosphere—आयनोस्फियर—आयन सम्बन्धी वायुमंडल। Conducting—कन्डक्टिंग—working—कार्य करने वाले। Presumbly—प्रिज्यूमेब्ली—By presumption—अनुमान से। Demonstrated—डिमन्स्ट्रेटड—exhibited, showed—प्रदर्शित किया। Swindlers—स्विन्डलर्स—persons who cheat other—ठगने वाले। Uncanny—अनकेनी—mysterious—विलक्षण अदभुत। Short circuiting-शोर्ट सर्किटिंग-लघु पारपथ। Ignition—इग्नीसन—making extreme hot—ज्वलंन, सुलगाने का कार्य। Ammunition—अमुनीसन—military stores fire arms—युद्ध सामिग्री।

Page 163

Word Meanings: Fog—फोग—thick mist—तुषार, कोहरा। Reflected—रेफ्लेक्टड—thrown back—प्रतिबिंबित। Accurately - एकूरेटली—exactly—पूर्ण रूप से। Horizontal-होरीजोंटल—parallel to the horizon—क्षितिज के समानान्तर। Aggressor—अग्रेसर—one who begins a fight—युद्ध का अगुआ। Remort—रेमोर्ट—for away—बहुत दूर। Ingenious-

इन्जीनिम्रस—skilful, clever—चतुर, प्रवीण । Prospection—प्रोस्पक्सन—out look—विस्तार ।

Page 164

Word Meanings:—Uniform—यूनीफोरम—dress—पोपाक । Colleague—कोलीग—fellow—साथी ।.

Pages 164—167

The team was variously·············over a hundred.

Page 164

Word Meanings—Cathode-ray—केथड-रे—ऋणाग्र तरंग । Indicated—इन्डीकेटेड—showed—प्रकट किया । Radio-location—रेडियो-लोकेसन—place where radio is located—रेडियो स्थापनं । Nickname निकनेम—an added name—उप-नाम । Puffin—पफिन—a bird—एक चिड़िया । Mournful—मार्नफुल—sorrowful—दुखपूर्ण । Weird–वियर्ड—fate—भाग्य । In opportune—इन्ओपोरचुन—untimely—असमय । Analyticle—अनलाइटीकल—of analysis—विभाजन सम्बन्धी । Persistence - परसिस्टेन्स—obstinacy—आग्रह । Obsolete—ओब्सोलीट—old fashioned—प्राचीन तरीके का । Staggering—स्टेगरिंग—tottering—चक्कर दार । .

Page 165

Word Meanings:—Short bursts—शोर्ट वरस्टस—लघु स्फोटन । Wavelengts—तरंग दैघ्य । Notch—नौच—cut—कटाव । Operational—ओपरेशनल—related to action—कार्य-शील । Manoeuvres—मेनोवसर्स—spiful plan—युद्ध रीति कुश-लता । Reconnaissance—रिकनेसेन्स militory survey of a trach—सेनिक परीक्षा । Visibility—विजिबिलटी—the extent of vision—दृष्टि विषयता · Ground—controlled—भूमि नियंत्रित । Intercaption—इन्टरसेप्सन—one who checks—विघटन—करने वाला ।

Page 166

Word Meanings:—Defence—डेफेन्स—protection—

सुरता। Approaches —अप्रोचेज—possible—ways —सम्भावित मार्ग। Plotted A प्लैटेड–devised–उपाय किया गया। Tracked-—ट्रेक्ड—followed the foot steps —पद चिन्हों का अनुसरण किया गया।

Page 167

Word Meanings —Magnificant—मेग्नीफीसेन्ट—great—महान। Stave—स्टेव—crush out कुचलना। Blitz—ब्लिज——firce attack—घातक आक्रमण। Sirens—साईरेन्स—instruments for producing loud sound—तीव्र शब्द उत्पन्न करने वाला यंत्र।

Pages 167—169

To days after..................of that speech.

Word Meanings:—Installations—इन्स्टालेसन्स—act of installing—लगाने का कार्य। Establishment—एन्टेब्लिशमेंट—settlement—संस्थापना।

Page 168

Word Meanings—Extensive— विस्तृत। Dedicated—डेडीकेटेड—given to—समर्पित। Spies—स्पाईज—जासूस। Creeping—क्रिपिंग—entering slowly—धीरे धीरे प्रविष्ट होना। Navigational—नेवीगेशनल—related to navigational-जहाजरानी से सम्बन्धित। Miraculous— मिरेकुलस —suprenatural extraordinary—चमत्कार। Beacon —बीकन—singal fire मार्ग दिखाने वाले।

Page 169

Word Meanings:— Coadstal batteries —कोस्टल बैटरीज–किनारों पर लगी हुई बैटरियां। Reminiscenced– रेमिनीसेन्सेड— memories — स्मृतियां। Inscription— इन्स्क्रप्सन—written words—अंकित।

Pages 169—172

Sir Robert-Watson—Watt's......weallagree.

Page 169

Word Meanings :— Retained— रिटेन्ड—kept in

possession–अधिकार में रखना। Consultants— कनसल्टेन्ट —advisers—सलाहकार। Traffic–ट्रैफिक-trade, to carry from one Place to another—व्यवसाय।

Page 170

Word Meanings:— Amplify— अम्प्लीफाई – to enlarge—बड़ा करना। Translantic— ट्रांसलांटिक— across Atlantic—अटलांटिक के दूसरी ओर। Hagardous—हजार्डस—dangerous—संकटपूर्ण। Ferry—फेरी— hired boat— किराये की नौका। Scanning—स्केनिंग—Examining the metrical correctness—गणना करना।

Page 171

Word Meanings:—Astronomy— आस्ट्रोनोमी— the science which treats heavenly bodies — खगोत्र विद्या। Aviation–अव्यिेसन–navigation of an aeroplane– वायुयान चलाना। Turbulent—टरबूलेंट—dieturbed विद्रोह।

Questions & Answers

Q. 1. What do you know about the early life of Sir Robert Watson-Watt ?

श्री राबर्ट वाटसन वाट के प्रारम्भिक जीवन के बारे में तुम क्या जानते हो ?

Answer:—

Sir Robert Watson-Watt was born in a little town of Brechin, Angus. He is the son of a Scots carpenter. He is the Tomegest child in his family. He was lucky to get good teachers in his student life. It made him interested in his studies. His aim in life was to take heavy engineery.

Robert Watson-Watt had received many scholarships and buryaries in his student carreer. After completing his studies he was appointed as a teacher in physics in Dundee. Soon afterwards he was em-

ployed by the Meteorological office of the Royal Aircraft Establishment in Faraborugh. Now his ideas were changed and the study of atmospherics had become the main object of his life.

Q. 2. How did Watson-Watt become interested in atmosphere ?

किस प्रकार वाटसन-वाट वायु मण्डल में रुचि लेने लगे थे ?

Answer:—

Sir Robert Watson-Watt wanted to take heavy engineering in the beginning. After his studies, he became the teacher in physics in Dundee. Soon afterwards he was offered a post at the Meteorological office. Now, the weather science was the chief occupation of him.

In those days, scientists were busy to sort out the noises of different kinds which were troubling in the wireless operators. They are known as atmospherics. The problem before Watson-Watt was to find out whether the aircarft could be warned of thunderstorms before hand. It led him to know about the origin of atmospherics and to distinguish those who were originated from nearly thunderstorms.

Robert Watson-Watt began to work on his basic research programme. He examined the field of direction finding by radio if it could solve the problem. Then he turned to collect light flashes. He also devised a method to locate lightning flashes by turuing radio listeners into observors. It proved a very successful source of gathering information. He himself chased the lightning flashes on board a cruiser and went with other scientists to the middle of Bay of Bengal. At least in 1927, Watson Watt became the Incharge of

the radio research station at Slough. In this, way he became much interested in the study of atmospherics and totally gave up the dream of heavy engineering.

Q. 3. What was the unofficial inquiry from white-hall for Robert Watson-Watt?

राबर्ट वाटसन वाट के लिये व्हाईटहाल से क्या अनाधिकारी पूछ-ताछ आई थी ?

Answer:—

Sir Watson-Watt was taking hard labour in his research work of atmopherics. He had collected valuable informations from different sources. His stuabies and experiment were widely appreciated and he was made Suprintendent of the Radio Divison of the National physical Laboratory as Teddingtion.

One day he received an unofficial inquiry from white hall. He was asked about the possibility of finding some kind of death ray. Stories of death ray was a current topic. Sir Robert Watson-Watt began to think over this problem. The object of such ray might be either to kill people at a distance or to stop aeroplanes and cars at a distance or to set off the enemy's ammunition, shells and bombs at a distance.

At last, he concluded that 'death ray' was not good bet. No doubt there was possibilty of radio-location of aircraft at a distance at any time and under any circumstances by means of radio waves. No—doubt was going soon to give a practical shap to his idea of radio location

Q. 4. How does the radio—location work to find the accurate distance of an aeroplane ?

रेडियो स्थापना किस प्रकार से वायुयान की सही दूरी का पता लगाने में कार्य करता है ?

Ans:–

Sir Robert Watson—Watt did not believe much in 'death– ray'. But he pointed out the possibility of locating a plane through radio–location· He believed that the wings of a modern aeroplane were sufficient enough to work as secondary transmitter. When powerful wireless rays were aimed at them, they reflected same back towards the ground.

On 26 February 1935 and experiment was made successfully. Robert Watson-Watt and his fellow scientists concluded that by sending short burts of very powerful wireless energy on short wavelengths was he best way to locate the aeroplane. Then the burts are reflected back which help to measure the distance of the plane accurately with in a second. Thus, radio-location proved the most efficient method to locate the plane and to measure its distancc accurately.

Q. 5. What was done to keep the invention of radar a top-secret.' ?

रडर को एक 'अत्यन्त रहस्य रखने के लिए क्या किया गया था ?

Ans:—

Sir Robert Watson-Watt did experiment on radio location of aircraft on 26 February 1935. It was a successful experiment. The value of the new invention was to depend on keeping at a top-secret for air defence As such a small team of scientists was formed. It decid·d to set up its headquartery on a remote part of the suffolk coast near or fordness.

These members of the team were taken from R. A-

F. and other services. They never were their uniform and worked at lonely spots. They never told anything about the nature of their work. In order to avoid the general attention, they spread the stories of oil prospecting and 'death-rays.' The radio-location or radar (as it was known later on) remained a top, secret for a long tell. It was publicly known only after the second world war was over in Europe.

Q. 6. What different names were given to the members of the new team ?

नये दल के सदस्यों को क्या विभिन्न नाम दिये गये थे ?

Ans:—

A team of selected scientists was formed to do experimented work on radio location. There headquarter was set up near orfordness. As it is an island, people began to call these members as 'the islander'.

Besides it, they were also known as the Green spc. club.' There was a green spot on the members cathode ray tubes which indicated an aircraft picked up by radio-location. The presence of this green spot caused them to name it so.

But the most popular name given to them was the boffins. The team itself had given a very fanciful origine of such a strange nickname. They said that once a bird puflin got crossed with an obsolete Fleet Aire Arm plane Baffin and their offspring was a Boffin. such the qualities of untimely ideas, inventioners and hard work which were found in Boffin were a'so present among those members. Thus they were names as the boffins.

Q. 7. How did the invention of radio location serve the country during war time ?

युद्ध समय में रेडियो स्थापन के आविष्कार ने देश की कैसी सेवा की थी ?

Ans.—

After the successfull experiment on-radio location more improvements were done by Baffins. On the basis of successful conclusions; the new weapon was developed in England.

Five radio-location stations were ordered to be set up on the east coast of England in December 1935. Air with in a year, the aircraft up to a distance of 75 miles were spotted. Soon afterwards, the members of R A. F. were trained in the new equipment. Then the experiment was made with flying radar stations. The powerful transmitters were fixed in aircraft to locate ships on sea. Bad weather and fog had no effect on them.

The second world war broke out on 3 september 1939. Radar played a very important part in it. Only two German bombers were claimed by R. A. F. in December 1940 but in May 1941 over a hundered bombers were destroyed. It also gave a good shock to German V boats. A whole chain of radio location stations was formed for the defence of the country. Million lives were saved and the tide of the war turned into the favour of Allied Forces.

Q. 8. What new terms crept into military language related with the invention of radar ?

रडर के आविष्कार से सम्बन्धित कौन से नवीन शब्द सेना की भाषा में धीरे धीरे प्रविष्ट हो गये थे ?

Ans:—

With the invention of radar, many new terms crept into the military language. The word 'Gee' was given to a system of navigational radar. It be became the backbone of Bomber command's navigation durin

war time. It also guided the mine-sweepers and lanᵉ ing craft.

Then, there was even more accurate equipment. It was meant for path finder aircraft. This system was known as above. It was a blind bombing system operated from England. It helped to destroy the coastal batteries and the radar warning stations of the enemy.

Another term was 'H_2S ' or 'gen box'. It is a selfcontained bombing aid with a cathode-ray tube screen. The reflections of hills buildings and water guides the bombar and the tube screen becomes a kind of map for them. There was also Rebecca Eureka' system for the airborne invasion. Thus various new terms enterted gradually into the military language.

Q. 9. What are the various uses of a radar during peace time.

रडर का शांति काल में क्या क्या विभिन्न प्रयोग है ?

Ans:—

'In the beginning of the invention radar' it was takes as a system for air defence. No doubt it proved its great worth during the war time. But after wards its various uses for the peace time were realised. It began to cover more and more spheres or human activity.

The first part to be radar-controlled was the post of Douglas, Isle of Man The second was the harbour of Liverpool. It produced a faithful image of nineteen mile-long Mersey channel.

Ever. modern air parts are equipped with it. Radar

helps them to more on their regular services without being hindered by fog and bad weather. The air liners guide them sitting before the radar set.

The ferry system of Thames has also become safer and regular. She fear of collision is reduced to nil. They are equipped with radio telephone and radar. The wireless telephone guides their way and helps them to cross the river without any fear of fog and bad weather. As such, the radar is put to various uses during the peace time.

Q. 10. What do you know about the personal life of Sir Robert Watson-Watt after inventing the radar system ?

रडर विधि का आविष्कार करने के उपरांत श्री राबर्ट वाटसन वाट के व्यक्तिगत जीवन के बारे में तुम क्या जानते हो ?

Ans:—

Life has always been kind to Sir Robert Watson-Watt from the start. After doing hard work for years together, he was successful to invent the radio-location system on 26 February 1935. He continued the Orfordness experiments and the new 'secret weapon' was fully developed in England.

Radar proved its great worth during war period. Robert Watson-Watt a name had become quite familiar in military, scientific and government circles. The country realised the great service he had done to the nation and his work was crowned with a knighthood in 1942

After the war was over in Europe, the [illegible] of radar was told to the English people. [illegible] Watson-Watt's name became famous all over [illegible]

He was retained as the adviser to various ministries in the Government. But he gave up most of his posts on his 57th birth day in 1949. He became the Governing Director of the firm of Sir Robert Watson-Watt and partners who are consullants on scientific and technical matters at present.

In fact, Robert Watson-Watt served the nation faithfully without craving for the personal honour and name. He does not believe in the 'pleasures of retirement, and wants to work till his last breaths. The philosophy of his life has alwsys been sincere work and honest living. His smiling round face reflects the great joy he gets out of his hard work.

THE END

of

mile-long

Ever